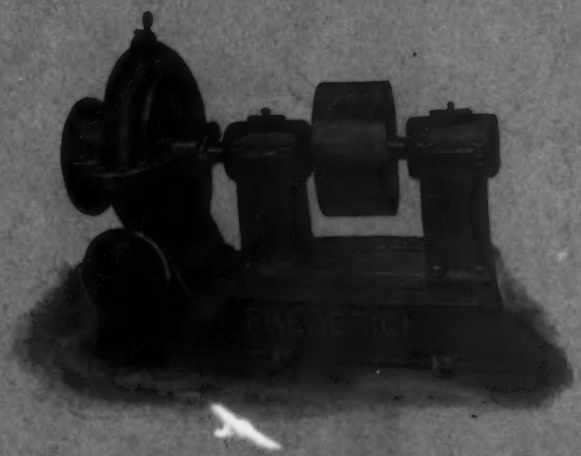
DEC 13 1926

PAPER TRADE JOURNAL

Reg. U. S. Pat. Off.

Vol. LXXXIII, No. 24 DECEMBER 9, 1926 Per annum, $4.00 Per copy, 10 cents

FREDERICK PUMPS



DEC 13 1926

In Constantly Growing Demand

For every need for a pump that exists in a paper mill, there is a suitable type of Frederick Pump. The Frederick Standard Paper Mill Pump efficiently handles stock up to 4% consistency. The Frederick Super-Stock Paper Mill Pump efficiently handles stock of up to 7% consistency. For pumping white water and stock of not more than 1% consistency, we recommend our Standard Double-Suction Single Stage Pump. Frederick Pumps are widely used in paper mills throughout the United States and Canada, and are rapidly achieving preeminence in this field. Every Frederick Pump is built to the most exacting standards of quality, and is definitely guaranteed for the service for which it is to be used.

Frederick Iron and Steel Company

Frederick, Maryland

In Canada: Dominion Engineering Works, Ltd., Lachine, Que.

Rip Van Winkle Up to Date!

Had Rip Van Winkle slept through the past twenty years, what an awakening he would have had today! The real progress in the mechanics of industry has been made in recent years.

In papermaking, what a revelation he would have seen had he been familiar with old methods and compared them with the NEW BELOIT method of today, with its Adjustable, Removable and Shakeable features; its consistent record of high production at uniformly low cost. For, contrary to old methods, interruptions in steady performance are rare, wires in many cases being unchanged for three months and more, and possibility of breakdowns being reduced practically to zero. In the face of great speed, steady operation and smooth performance, a better formed sheet has been produced.

The more you learn about the NEW BELOIT, the better you will like it. Nothing like it has ever been known before to the papermaking industry. It is a product of modern evolution and modern times.

Smooth Running

"I had the pleasure of seeing your machine in operation. Words fail me in which to express my admiration at such a smooth-running machine."

Get the facts. Write for Bulletin No. 9 .

The NEW BELOIT FOURDRINIER

FOUNDED 1858 BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS.

BELOIT IRON WORKS
Canadian Licensee: Dominion Engineering Works, Ltd.

Beloit, Wisconsin, U. S. A.

Entered as second class matter August 12, 1925, at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. ESTABLISHED 1878 FIFTY-FIFTH YEAR Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., E. Stroudsburg, Pa. EXECUTIVE AND EDITORIAL OFFICES: 10 EAST 39th STREET, NEW YORK CITY CHICAGO: 123 West Madison St., Chicago, Ill

PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

LESLIE R. PALMER, President — GEO. S. MACDONALD, Vice-President & Treas. — F. K. HOPPE, Secretary

Executive and Editorial Offices: 10 East 39th Street, New York
Chicago Office: Room 14, Suite 410, 123 West Madison St

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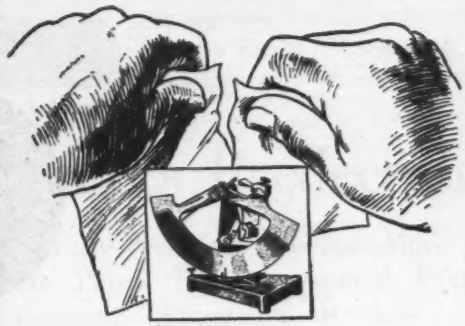


THE OLD WAY and THE NEW!

Illustrated above are two ways of testing paper. One way is old, the other way is new.

The old way, by tearing with the fingers, is vague, highly inaccurate and unreliable.

The new way, with the Elmendorf Tearing Tester, is definite, extremely accurate and absolutely reliable.

Hundreds of progressive paper mills and paper houses are testing paper the new way.

An Elmendorf Tester will put you up-to-date, too.

Send for Bulletin Seventeen
It tells all about the Elmendorf

Thwing Instrument Co.
3341 Lancaster Avenue
Philadelphia, U. S. A.

189

CHANGING OVER TO AMERICAN CLAY

During the past fifteen years mills making book and magazine paper have been developing the use of and changing over to American Clay.

During nineteen twenty-six several have done so.

During the next ten years probably all of those mills not shut off from American Clays by freight rate barriers will do so.

The resistance to change is recognized yet all progress is changing—accepting improvements and developing economies.

McNAMEE PULVERIZED CLAY is probably the last development in economical paper filling. A thoroughly satisfactory high grade filler in perfect shape for economical handling.

In bulk with pneumatic air equipment for the large user.

In convenient fifty pound paper sacks when requirements are smaller.

R. T. VANDERBILT COMPANY,

50 East 42nd Street, New York City, N. Y.

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

The Magazine of the Paper Industry

Vol. LXXXIII, No. 24 — Thursday, December 9, 1926

Fifth Power Show Out Distances Predecessors

Largest and Most Comprehensive Mechanical Exposition Ever Presented Includes More Than Five Hundred Exhibits, Many of Intense Interest to Paper Trade — Annual Event Brings Together Leaders in Engineering and Industry—Stupendous Development of Applied Science Demonstrated

Far out distancing its predecessors, the Fifth National Exposition of Power and Mechanical Engineering, being held this week in the Grand Central Palace, New York, contains more than five hundred exhibits, and occupies over 160,000 square feet on four floors of the building, which are utilized to present novel ideas for producing and conserving power, all types of electric generators, dynamos and indicators, apparatus for proper ventilation, and precision devices that check up to prevent waste in industry.

The Department of Commerce, which created a bureau for the study of utilization of wood is represented for the first time since its study was undertaken a year ago. Dudley T. Holtman, assistant director of the committee is in charge. Many types of packing cases of wood and wood pulp are exhibited and show that progress has been made in the use of short lengths, which field the committee hopes to develop. Mr. Holtman explained that only 35 per cent of a tree is used today because short lengths are not utilized.

An interesting exhibit is a heat meter, a contribution of the American Society of Heating and Ventilating Engineers. This machine will register the heat of a hand or the blush of a cheek and responds instantly to the amount of heat created by the combustion of a speck of coal. Experiments are under way by which it is expected that the machine may trace the amount of heat lost through different types of walls and save $200,000,000 which is lost annually by the American public in unnecessary fuel expenditure.

Space limitations prevent individual mention of all the exhibits, but the following is a record of some of those which are of particular interest to visitors from the paper industry.

Air Preheater Corp.

An interesting exhibit is that of the Air Preheater Corporation, of 25 Broadway, New York, which displays small working models of Ljungstrom Air Preheaters, together with modern models of the complete boiler plant with the Ljungstrom Air Preheater adapted to the boiler.

Superheated heat provides profitable method for efficient boiler operation, while better combustion conditions tend to lengthen the life of the boiler and stoker.

Ljungstrom Air Preheaters are installed here and abroad in a largely diversified line of industrial plants, where the fuel used ranges from coal or oil to bagasse and wood refuse. Paper mills, sugar mills, steel works, chemical plants, abrasive compound factories and scores of others attest the splendid success of their Ljungstrom installations.

A great many photographs of installations are also shown at this booth.

Allen-Sherman-Hoff Co.

The exhibit of the Allen-Sherman-Hoff Company, of 257 South 15th street, Philadelphia, consists of a miniature Hydrojet Ash Handling System. The installation is not a model, but, of necessity, built of small unit parts to be accommodated in the booth space.

Elaborately illuminated, the system is shown in operation, and is proving of extreme interest to all those interested in handling ashes safely and economically from modern furnaces.

Since this system is totally enclosed, there is no free water and no dust or dirt. It has no moving parts, therefore the maintenance is virtually nil. One man, part time of one shift, does all the work.

American Well Works

Non-Clogging Centrifugal Pumps are displayed by the American Well Works, of Aurora, Ill. The new "American" Non-Clogging Centrifugal Pump marks a new stage in non-clogging pump construction.

The impeller in this pump is so designed that the stream lines are not separated, but so the stream of fluid is kept in one mass and carried through the pump without being subdivided. This obviates the necessity for screening sewage or fluid containing other material before pumping.

Fluids containing stringy matter, mineral matter, animal matter and vegetable matter, such as hair, string, waste, shavings, rags, mud, chips, sand, sludge, wire, debris, slaughter house and fish market refuse, offal, fat, grease, weeds, straw, stable sweepings, etc., can be handled without the aid of screens and their expensive maintenance.

This pump is made in both vertical and horizontal types and is adapted for municipal sewage and general industrial use.

S. F. Bowser & Co.

Bowser Heavy Oil and Grease Lubricators, Bowser Diskelectros and Bowser Transformer Oil Filters are shown by S. F. Bowser & Co., of Fort Wayne, Ind. S. F. Bowser & Co. furnish complete automatic lubricating systems for calenders, driers, and other machinery used in paper mills and paper mill power plants.

One of the Model M Lubricators, purchased by the Tomahawk Pulp and Paper Company, in 1910, has been operating on an

AC Corliss engine for sixteen years. No repair parts have been required.

The Bristol Co.

Recording, indicating, and controlling instruments are featured at the attractive booth of the Bristol Company, of Waterbury, Conn., including: Pressure and Vacuum Gauges, Liquid Level Gauges, Thermometers, Pyrometers, Voltmeters, Milli-Voltmeters, Ammeters, Shunt Ammeters, Wattmeters, Frequency Meters, Mechanical and Electrical Time Recorders, Pneumatic and Electric Tachometers and Psychometers; also Temperature Controllers, Radio Averaging Instruments, etc.

Many exclusive features are incorporated in Bristol's Instruments which make them specially desirable and are not duplicated in any others. The simplicity of principle and construction is one of the most noticeable characteristics of all Bristol's Instruments.

Perhaps the one greatest reason for the success of Bristol's Recording Instruments is their practicability in every day industrial use. They furnish a fine example of where science is an aid to productive industry. Bristol's have not only proven to be theoretically correct, but both workable and dependable in actual practice. There is no exception to this in any Bristol Instrument.

Cleveland Worm & Gear Co.

At the booth of the Cleveland Worm and Gear Company, of Cleveland, Ohio, standard worm gear reduction units are shown in operation and samples of various sizes of the worms and gears manufactured by the organization are displayed.

The Cleveland Worm Gear Reduction Unit has set the standard for modern worm gear speed reducers. Its design has met with the approval of engineers throughout the country and its performance has placed worm gearing among the dependable and efficient means for power transmission.

Combustion Engineering Corp.

One of the largest and most comprehensive exhibits at the show is that of the Combustion Engineering Corporation, of 200 Madison avenue, New York. A feature of this exhibit is the CE Unit System Pulverizing Mill, which will be installed at the Cumberland Mills, Me., plant of the S. D. Warren Company.

Illuminated panoramic scenes showing the Loculpo Pulverized Fuel System and Couch Forced Draft Burner for horizontal firing pulverized coal, are also attracting much attention.

The Combustion Engineering Corporation is also featuring CE Fin furnaces, which materially increase the boiler rating and eliminate furnace brick work; air preheaters, which extract the heat in the flue-gases and return it to the furnace by preheating the air that is taken into the furnace for combustion purposes, and the Cox Stoker and Green Forced Draft Stoker.

Erie City Iron Works

The new Unitype Pulverizer is shown at the booth of the Erie City Iron Works, of Erie, Pa., and the fine workmanship and operating principles of this equipment are ably demonstrated.

This is the equipment which has been showing large users of fuel for power a saving of 35, 40, even 50 per cent in costs of coal. It has, at the same time, cut fuel handling costs in half and made possible a clean cool boiler room.

Literature of the new Three Drum Inclined Water Tube Boiler and the new Basket Type Water Cooled Refractory Lined Furnace for the utilization of pulverized coal in steam generation, is also distributed.

The Foxboro Co., Inc.

Different types of indicating, recording and controlling instruments made under the Foxboro trade-mark, are shown at the booth of the Foxboro Company, Inc., of Foxboro, Mass.

The chart records of Foxboro recording instruments furnish a wealth of information which, if properly used, enable the user to control each process scientifically.

There is a Foxboro instrument for indicating, recording or controlling the temperature, pressure, humidity or flow of each critical process. Every Foxboro instrument is guaranteed permanent in calibration and is accurate to within less than one per cent of total scale range.

Frederick Iron & Steel Co.

A large working model of a coal separator is featured in the exhibit of the Frederick Iron and Steel Company, makers of centrifugal pumps, of Frederick, Md.

The best recommendation of Frederick pumps is the satisfactory service that they have given their users, as evidenced both by the words of these users and by the constantly growing demand for the pumps.

Since the beginning of their manufacture, Frederick pumps have been placed in operation in almost every civilized country in the world. Today, wherever efficient and dependable pumping service is of prime importance, more and more builders and industrialists are standardizing on Frederick pumps.

Frederick Standard Paper Mill Pumps efficiently handle stock of up to four per cent consistency. Frederick Superstock Paper Mill Pumps efficiently handle stock of up to seven per cent.

General Electric Co.

As usual, the exhibit of the General Electric Company, of Schenectady, N. Y., is one of the centers of attraction at the show. Working exhibits are shown of the new G-E Blower; the new G-E Steam Turbine; the new G-E Industrial Control; the G-E Electrically Operated Flow Meter, independent of Voltage Variation, etc., etc.

The G-E Steam Turbine for auxiliary drives embodies the combined efforts of G-E engineers, factory managers, and field specialists for a quarter century, all working to produce the best. And it has had every advantage that research can offer. This experience, which is regarded as of so much importance to large generating units, adds reliability to auxiliaries also.

Its efficiency in the use of steam is recognized by executives responsible for over-all plant economy. Engineers in charge of plant operation appreciate its simplicity. All benefit from its reliable performance.

Equipped with an oil relay governor, the same as the largest turbines now in use, the G-E small Turbine for mechanical drive has excellent speed control over a wide range, and under difficult conditions.

The G-E Flow Meters are particularly endorsed by the paper industry. They measure accurately the flow of water, steam, air, etc., and retain their accuracy without recalibration during many years of service.

An installation of flow meters throughout a mill reduces the cost of steam as well as the amount used. In planning such an installation the mill owner can obtain the benefit of many years of experience in the application of G-E Flow Meters to pulp and paper production.

Hendrick Mfg. Co.

Mitco Interlocked Steel Grating, with its rivetless construction and rectangular openings, is attractively displayed at the booth of the Hendrick Manufacturing Company, of Carbondale, Pa. Mitco gratings afford a rigid, well-designed, non-slipping floor.

Its principal advantages are: Freedom from rattling, maximum lighting, maximum ventilation, non-clogging and rust resisting, ease of upkeep and repainting, permanent rigidity and long life.

The process of manufacture of Mitco Interlocked Gratings consists in punching in the compression side of the deep or bearing bars a series of dovetail slots on fixed centers, into which are set the lateral or transverse bars. As the dovetail slots are always above the neutral axis, and the dovetails are completely filled by the transverse bars, which are forced into them under a heavy press, the bearing bars develop the full strength of the metal.

The resulting product is a panel whose members are permanently locked at once, neat in appearance, with flush face, easily cleaned and painted and free from clogging on account of the rectangular openings with no acute angles to catch and hold refuse and at the same time giving maximum light and ventilation.

Jeffrey Mfg. Co.

Eight reliable methods of handling coal and ashes at the lowest cost per ton are demonstrated at the booth of the Jeffrey Manufacturing Company, of Columbus, Ohio. This complete service to the power plant is the result of nearly fifty years of experience.

The eight methods, or equipments, are the outgrowth of many years spent by the Jeffrey engineers studying and solving hundreds of coal handling problems.

Jenkins Bros.

Artistically arranged, the exhibit of Jenkins Brothers, of 80 White street, New York, includes a comprehensive line of Bronze and Iron body Valves, and Mechanical Rubber Goods. In addition to their standard line of bronze globe, angle, cross, check, "Y" and gate valves, there are samples of their new Medium Pressure Pattern, Marine Valves, Needle Valves, the Rapid Action Valve, Whistle Valve, different types of Hose Valves including Fire Line Angle Valve, and bronze underwriter's pattern Gate Valve, Jenkins Air Gun, and the new Jenkins Modulating Radiator Valve. In the line of Mechanical Rubber Goods they show Jenkins Disc of different compounds for various conditions of service, sheet packings, gaskets, pump valves, Bibb washers, Fuller balls and gasket tubing. There is also shown samples of Moncrieff Scotch Gauge Glasses.

Mason Regulator Co.

At the booth of the Mason Regulator Company, of Dorchester Center, Boston, Mass., are shown the Mason line of Reducing Valves, Pressure Regulators, Pump Regulators, and Draft Control apparatus. Also on display are bronze valves, and iron body and cast steel valves.

The Mason Regulator Company are distributing to visitors their large and valuable catalog, which contains tables for obtaining sizes of steam pressure reducing valves, and much general information of interest to the paper industry.

Morse Chain Co.

The Morse Chain Company, of Ithaca, N. Y., has a very interesting exhibit of Silent Chains of different sizes in operation, also samples of different sizes of chains, showing very clearly the Rocker-Joint construction which has made possible the efficient operation of these chains over a period of years.

The exhibit shows clearly why many Morse installations have been operated continuously for periods of from 15 to 20 years, and are still in service.

Nash Engineering Co.

Nash Hytor Vacuum Pumps and Compressors are featured at the large and impressive exhibit of the Nash Engineering Company, of South Norwalk, Conn.

Simple construction assures dependable operation. Pistons, crank shafts, valves, cams, gears, sliding vanes and other complicated parts likely to get out of order are not to be found in the Nash Hytor Vacuum Pump.

There are only three principal parts in a Hytor—the impeller, casing and end bell. Construction is simple, conforming to approved engineering design.

It is this fact which makes Hytors so easy to operate. And so dependable in service. Other than lubrication and packing, no attention is needed.

Norma-Hoffman Bearings Corp.

A full line of Norma Precision Ball Bearings and Hoffman Precision and Thrust Bearings is being exhibited by the Norma-Hoffman Bearings Corporation, of Stamford, Conn.

To Norma-Hoffmann engineers and production men, "Precision" means the ultimate in dimensional refinement. Above and beyond this, however, it means bearing design worthy of expression in a finished product of this extreme refinement—selected materials well deserving of special treatments and of highly refined machining processes—standards of production which permit no deviation from absolute uniformity, regardless of quantity.

The Norton Co.

The Norton Company, of 1 New Bond street, Worcester, Mass., manufacturers of Norton Pump Stone, are exhibiting Norton Grinding Wheels and Light and Heavy Refractors.

It is recognized in the paper industry that Norton Pulp Stone means steady and uniform production of ground wood. The Norma Pulp Stone has reduced to a minimum the delays that cost so much in the news print pulp mills.

In actual service, before the Norton Pulp Stone was placed on the market, its efficiency was proven.

Philadelphia Gear Works

The Philadelphia Gear Works, of Richmond and Tioga streets, Philadelphia, are showing the latest models of their Speed Reducers (Worm, Herringbone, Spur, and Spiral-Bevel Herringbone Types). Views of installations of various Philadelphia Reducing Units are also shown as well as gears of various types and sizes.

Philadelphia Speed Reducing Units are the result of 43 years gear making experience. Designed by proficient gear and power transmission engineers, and built of the very best materials, by skilled mechanics,—these units are offered to progressive manufacturers, as the most efficient and economical means of reducing the driving speed of electric motors, steam turbines and other prime movers.

Ruths Accumulator Co.

The exhibit of Ruths Accumulator Company, of 292 Madison avenue, New York, consists of various accessories used in connection with the Ruths Accumulator, together with photographs, diagrams and full information regarding the function and application of the Ruths Systems of Steam Storage.

Steam plants using Ruths Accumulators meet peak loads with steam which has been stored during light load periods. The boiler output is uniform and steam pressures constant.

The result is standardized manufacturing conditions made possible by these absolutely constant pressures and the relatively unlimited quantity of steam available at all times.

The uniform boiler load provides ideal combustion conditions. The fuel consumption is usually reduced from ten to fifteen per cent. Maintenance costs are lower as the forcing of boilers to meet peak loads is eliminated.

S K F Industries

One of the most beautiful and instructive exhibits in the show is that of the S K F Industries, Inc., of 165 Broadway, New York. A revolving globe demonstrates the world-wide reputation of this organization, and shows that S K F Ball Bearings are used throughout the world.

Line shaft equipment is the connecting link between the prime mover and the producing machine. It is, therefore, one of the most important parts of the mechanical equipment of any power-driven manufacturing plant—a part where losses cannot be avoided unless efficient equipment is used. The straight road to economical operation demands power transmittal with the least possible waste.

S K F self-aligning ball bearing line-shaft equipment will eliminate power losses and reduce other overhead charges such as lubrication, maintenance, rebabbitting, etc. That this is true is proven by a constantly increasing number of initial users.

The service rendered by the S K F Industries, Inc., does not end in the sale of the product. It has at its disposal a laboratory thoroughly equipped for scientific research in anti-friction engineering and a staff of competent engineers who have made the study of anti-friction problems a specialty. Not only is this scientific organization contributing daily to the improved production of bearings, but it is capable of rendering invaluable assistance in the solution of the manufacturers' bearing problems.

Taylor Instrument Companies

Tycos Temperature Instruments—Recording, Indicating and Controlling—are displayed with good effect at the booth of the Taylor Instrument Companies, of Rochester, N. Y. There is a

(*Continued on page 72*)

Paper Demand Holds Steadily in Philadelphia

Orders for Christmas Trade Have Been Unusually Heavy and Shipping Departments are Exceptionally Active—Prices are Generally Being Well Maintained at Fall Levels—Fine Paper Market Lively, While Mills Have Situation Well in Hand

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 6, 1926.—With demand for paper holding steadily, there continues a seasonal activity which is gratifying to the Quaker City dealers generally. No disturbing influences are on the horizon for the remainder of the current year although there may be some low offerings after the new year sets in. The holiday markets are brisker, and while most dealers have already sold largely for the needs of the Christmas season during the past month, there still continues enough orders to keep shipping departments busy, as the stocks on hand in the consumers warehouses are exhausted. While the November purchases for the holiday needs were in larger quantities, those of December are confined to the demands of the moment, and in from hand to mouth type, indicating that the consumer is cautious in his paper purchases, pending the inventory days that are to come with the winding up of the year. Prices all along the line have been firmly held at the Fall levels, and considerably above those that prevailed in the mid summer days, and at the highest quotations of the year.

Fine Papers Holding Firmly

As the Christmas season nears, and the announcements of holiday offerings flood the mail, the fine paper houses are lively with orders for all grades of paper consumed by the commercial printing firms catering to the advertising requirements of the mercantile trades, and the greeting card, manufacturing, and engraving branches of the graphic arts industry. Demand for book papers, cover grades, and coated papers, holds fairly well in view of the customary quieter period which usually prevails in the closing month of the year for these lines. Publishers have continued to operate at capacity, and while most orders for their needs are under contract to the wholesale houses, they have been patronizing the distributors more freely for their year-end requirments pending the closing of the inventory season. No new marks or grades of papers have been forthcoming at this time, and dealers are convinced that the mills have the situation well in hand, and that there will be no offerings of any consequence to disturb the prices of fine papers. Another evidence of a healthier tone to the fine paper market is the absence of canvassing on the part of the mills, indicating that present manufacturing operations are on a parity with consumption.

Fair Demand for Coarse Papers

As the closing month of the year opens, the trade is enjoying a fair demand for all grades of coarse papers, and steadier prices. While the present is bright in the more stabilized demand, and quotations on all coarse papers, which at this time last year were subjected to much inroads on values, there are forebodings that mill dumping may be a factor to contend with in the early days of the new year or in the post inventory season. That this is forecasted is due to the fact that already one large mill has disposed of its surplus stocks to a leading converting firm in this city, the latter now receiving several carloads of various grades which have been hold overs of this year's production. Among the grades that have been received from the mills in question are sulphite manilas and krafts, colored fibers, and other wrappings. Though there are misgivings about the future immediately after the new year, the present markets are satisfactory. Wrapping papers are in fair demand; the twine markets have improved; tissues, toilets and bags are again stabilized, and there has been an advance in the price of gray bogus of ¼ cent, so that the trade is confident that the balance of the year is to be firmly held at today's trend. It is expected that whatever mill dumping will take place is to be purely of a temporary nature to rid warehouses of hold overs and to make room for the new stocks that will be manufactured in the coming year.

Advertising Campaigns in Planning for 1927

Experiences of the past year or so with advertising campaigns having proved the worth of such publicity most forcefully to those mills having conducted broad exploitation of their products, the manufacturers in the local field are now occupied with planning new ideas and broadening of their advertising during the coming year. Those mills which have added new products within the year or two, and have gained many friends for their products through the ad campaigns will now develop extensively new territory through increased advertising means. While a few manufacturers have announced that they will develop their advertising in the coming year, they are not yet ready to give out what means will be employed, pending the perfection of plans.

Reading Paper Mills to Broaden Ad Campaign

In the new year, the Reading Paper Mills, of Reading, Pa., will branch out in the advertising of its recently introduced grades of Bodleian and Louvain book papers, which have for the past year been gaining many trade friends. The 1926 campaign gained for the mills many new distributors, scattered all over the nation. The success which the current year's exploitation brought, has encouraged the manufacturer to broaden his scope with the advent of 1927. Samplers and novel direct by mail contact with the distributors, and other means of bringing the Bodleian and Louvain papers before the trade, are now in the planning, and will be ready for the distributors shortly after the New Year. As the popularity of the Reading Mill specialties broadens, the plant at Reading is kept running to capacity meeting the urgent needs of the dealers, who have benefited by the advertising conducted throughout 1926, and now have orders on file awaiting the shipment of stocks as the mills speed up production. Among the Philadelphia dealers handling the Reading Mill specialties are the Paper House of Pennsylvania and the Lindsay Paper Company, both enjoying an excellent demand.

P. H. Glatfelter Co. Extends Advertising

Having been much gratified with the successful launching of the advertising campaign on its Provenworth papers in the past year, the P. H. Glatfelter Company is now arranging for the broader scope of its ad material circulation in the new year. The Provenworth book papers were brought out a year ago, and backed by the strenuous advertising conducted by the company, have been "proven worth" as profitable stocks in the hands of those dealers who undertook the distribution of the line in various sections of the country. This year's advertising will be augmented with the coming 1927 campaign, and original exploitation ideals carried out by the manufacturers in their efforts to give the best of service to their distributors through widely scattered publicity channels. The Paper House of Pennsylvania has been the exclusive Quaker City distributor for the Provenworth, and has met with the highest success in the introduction of these papers to the local territory, having made them a leading standard for quality in these grades of fine papers.

Goldman Paper Stock Co. Receives Record Shipment

The surplus stock of a Maine paper manufacturing concern, consisting of ten carloads of paper, has been purchased by the

Goldman Paper and Stock Company, 414 S. Front street, for the purpose of converting into cut sizes for the trade and the consuming public. One of the largest mills in the country disposed of the surplus of its mill to the local firm as a preliminary step to the inventory season and the clean up of the 1926 production. The lot consisted of such grades as fibers, krafts, sulphite manilas, and striped wrappings, and will be converted to meet the requirements of the dealers, jobbers and consumer patrons of the Goldman company. The Goldman company has recently developed an extensive converting plant, and is equipped to turn out large quantity production in cut products. Originally a paper stock concern, and founded by Charles Goldman, who recently retired, the business is now devoted to the sale of paper stock, the importation and sale of pulp and the conversion of job lots, mill surplus, and salvaged paper stocks in volume purchases, into cut sizes for the trade as well as the consumer.

Paper Manufacturers Co. Forces Join in Social Meeting

Following out its custom of an annual gathering around the festive board, the members of the firm of the Paper Manufacturers Company, 5th and Willow streets, and the forces, met in amity and goodfellowship last Wednesday to spend the evening in banqueting and enjoyment of an entertainment of musical selections and dancing. With 100 assembled at the table there was feasting on seasonable good things and then all joined in the dancing and choral numbers which wound up the evening's program.

While the banquet was being served on the main floor of the half million dollar home of the company, a brief but warm word of welcome was extended to the forces and associates by President Frank A. O'Neill, of the firm, who gave expression to his gratitude for the able and efficient co-operation of the workers throughout the year. Then the other officers of the company, including Vice President J. A. O'Neill, and Secretary F. W. Coar, added a word of greeting and in like vein expressed their appreciation for the efforts and successful work of the forces during 1926. Vincent A. Dirdin, acting as toast master, in turn paid tribute to the individual members of the firm on behalf of the organization and his constituents, expressing their good will for those who headed the firm and the gratification over the fairness with which all were considered as associates interested in the success of the business. He then turned the evening over to the forces and urged all to enjoy the many diversions provided by the firm for their entertainment.

Win Sesqui Awards

Among the paper trade exhibitors who were awarded grand prizes at the closing of the Sesqui-Centennial International Exposition and who were selected by the Award Jury of Fifty Experts from all parts of the world, were the Tosa Paper Traders Guild of Japan and the Whiting Paper Company, of Holyoke, Mass. There were 145 awards made to various industries by the Jury of Awards. The granting of the grand prize to the Tosa Paper Traders Guild was for the quality of the products and their usefulness. The Whiting Paper Company award was made for the display ledger, bond, writing, correspondence and invitation papers, announcements and for bristol boards.

Both the paper concerns represented in the awards were extensive exhibitors of papers and featured attractively arranged displays under glass and in specially constructed display cases. The Whiting company exhibited its boxed papers and wedding and social announcements and writing and bond papers in the various marks under which its papers are marketed. The Tosa Paper Traders Guild included paper napkins, tissues, wall paper foundation, mimeograph papers, paper cords and ribbons for tying and wrapping, book papers, announcements, and decorative papers of a wide range in selections, all made in Japan. Another Japanese exhibitor winning the grand award and converter of paper products was Teshigawara Naojiro, for ornamental paper products.

Riegel Co. to Feast

As the Christmas days near, the firm of Riegel & Co., Inc., 140 N. 6th street, is planning the customary holiday feasting and social gathering in which the members of the firm join with the workers in the extension of good will and amity around the festive board. This year there will be the usual entertainment and banquet, to be held at one of the prominent hostelries of the town, and Leroy McCall, of the sales organization, is now engaged in perfecting plans for the celebration to be held in mid December. Arthur B. Sherrill, of the company, is expected back from his tour of the New England Mills in time to join in the festivities of the holidays.

Paper Houses Are Sesqui Centennial Creditors

Among the creditors of the Sesqui Centennial Exposition who have filed claim with the Mayor and the city for goods sold to the exposition, were several paper houses, whose indebtedness ran from a few dollars into four or more thousand dollars. Among those placing claims in the hand of the city and exposition authorities are the Thomas W. Price Company, the D. L. Ward Company, the Paper Manufacturing Company, A. Hartung, Inc., and Wolf Brothers, manufacturers of envelopes. These have been taken up for discussion among the various bills of indebtedness running into more than $5,000,000, which still must be paid of the deficit in the financing of the exposition. Several other branches of the graphic arts industries and consumers of paper, such as the stationery and printing industries, are also involved in the claims, to the extent of several thousand dollars.

H. B. Gresson to Manage Sayford Co.

Harland B. Greeson, who formerly was identified with the Brooklyn offices of the Frank M. Sayford Company, is now manager of the Philadelphia headquarters of that concern, with offices in the Public Ledger Building. He succeeds Philip J. McCoy, who for the past several years has been local manager, and who has been promoted to sales manager of the Brooklyn main offices of the firm, engaged in the manufacture of doilies, paper napkins, food containers, butter chips and like products.

W. B. Carey to Manage Container Corp.

Following the consolidation of the Philadelphia Paper Manufacturers Company with the Chicago Mill and Lumber Company and the formation of the Container Corporation of America as a result of the merger of the two concerns, the Philadelphia mills and plant of the corporation has passed to the managership of W. G. Carey, formerly identified with the Philadelphia Paper Manufacturing Company. The local board plant and container manufacturing plant will continue as formerly to produce news and chip board and shipping containers for fruit and other food products.

Czechoslovakian Paper Prices To Be Controlled

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 7, 1926.—Negotiations looking to the conclusion of a domestic sales syndicate are approaching conclusion in Czechoslovakia, according to a report from Commercial Attache Baldwin at Prague. The cartel will comprise all paper mills in the country with the exception of mills manufacturing cigarette paper.

Members will be committed to price and market agreements extending for a number of years, but applicable to domestic sales only, export sales remaining free of restrictions. The syndicate is expected to take the form of a limited liability company, and individual mills will be allocated at production quota. Two paper mills in Slovakia, employing 1,000 workmen, are to be purchased by the syndicate and closed. It is possible that other mills will similarly be closed and that certain forms of production will be concentrated in others. Similar negotiations are reaching conclusion among chemical pulp producers.

Toronto Paper Demands Seasonably Active

Request for Practically All Lines of Paper is Fully Up to Expectations for This Time of Year —Some of the Finest Pulpwood in the World Being Developed in Manitoba—Provincial Paper Mills Declare Quarterly Dividend

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., December 6, 1926.—Business in the paper market continues good and is quite up to expectations for this season of the year. There is now a slackening off in some lines such as are turned out by manufacturing stationers to meet the holiday trade. Buying on the part of jobbers is not heavy at present and only sufficient to meet seasonable calls as it is desired not to have too heavy inventories at the end of 1926 when stock-taking will be proceeded with. Mills are busy and running to capacity.

There has just been issued by the Canadian Pulp and Paper Association a booklet setting forth the Trade Customs in book, litho and writing papers. The publication is designed to facilitate dealings between manufacturers and wholesalers and to assist buyers and sellers of paper generally. For convenience sake the regulations applying to book, litho and writing papers have been assembled together instead of being issued separately as formerly. In mill orders one of the most important rulings is that a mill order of book papers, including offset, shall be of a minimum quantity, 3,000 pounds stock or special sizes of a standard substance, m. f. or s. c. mill price. Below 3,000 pounds and not less than 1,500 pounds in special sizes standard substance, an additional charge of one-half cent will be made per pound. Below 3,000 pounds and not less than 1,500 pounds standard sizes and substances, an additional charge of one-quarter cent per pound will be made.

In untrimmed paper, lines ordered shall be of exact size specified with no margin allowed for trim. Paper cannot be supplied untrimmed in standard mill brands held in stock, except in minimum mill orders of 5,000 pounds, one size, weight, color and delivery, in which case the cost of packing will be deducted from the selling price in the proportion of fifty per cent of the regular charges for cases, trimming, etc., such untrimmed paper to be billed at proportionate weight.

Much Pulpwood in Manitoba

Col. R. H. Webb, Mayor of Winnipeg, speaking in Toronto befort the Empire Club in favor of the extension of the Hudson Bay Railway to Port Nelson on James Bay, said that the Hudson Bay water route was an all year round one, something which could not be said of the St. Lawrence. He added that there were eighty million acres of the finest pulpwood in the world in Manitoba and it is now being developed. Manitoba was going to be an industrial province. The road is now built to mile 332 with a fine roadbed. There are only ninety-one more miles to be laid with steel for which the roadbed has already been made.

Provincial Mills Declare Dividend

The quarterly meeting of the Provincial Paper Mills, Toronto, was held recently when the regular quarterly dividend of 1¾ per cent on the preferred stock and 1½ per cent on the common stock was declared, along with an extra 1 per cent on the common stock. Conditions in the book and writing line were reported to be good and the company will shortly close another successful year. Among the directors from a distance who attended the meeting were S. B. Munro, A. B. Connable and Charles C. Campbell of Kalamazoo, Mich.

Artificial Trees for Chrismas

The Interlake Tissue Mills, of Merritton, Ont., have been sending out to retailers throughout various parts of the country artificial Christmas trees. These tissue trees, which closely resemble genuine spruce or balsam, are used for decorative and demonstration purposes and have, to a large extent, taken the place of trees cut from the forest, thus ensuring conservation of timber resources. The trees come in various sizes and are designed to meet every need of the Yuletide season. George Carruthers, president of the Interlake Tissue Mills, is an ardent conservationist and the paper trees have been put out by the company as a deterrent against wilful waste in the matter of spruce, balsam and cedar and, at the same time, provide an excellent substitute.

Mills Will Get Clear Water

A motion for an injunction to restrain the Canadian Dredging Company from dumping into the Welland canal any material of such a nature as to interfere with the manufacture of certain grades of paper by the Interlake Tissue Company, the Lincoln Paper Mills and the plant of the Provincial Paper Company, resulted before Mr. Justice Hodgins, Toronto, in an agreement obviating the necessity of an injunction. W. M. German, K.C., of Welland, Ont., representing the dredging company, officially gave the following undertaking: "The defendant undertakes that from now on, until this motion is finally disposed of in court or at the trial, there will be no more material excavated by the dipper dredge dumped in front of the hydraulic dredge, except on days upon which, because of weather conditions, it is impossible to take their scows to the lake."

Improvements at Smooth Rock Falls

The Mattagami Pulp and Paper Company, whose plant is located at Smooth Rock Falls, Ont., is installing two acid towers in connection with the lime-rock system. The G. D. Jenssen Company, New York, is carrying out the work. The company is also installing a new pulp wood stacker with a capacity of 35 cords an hour. The stacker is being erected by the Webster-Inglis Limited, of Toronto.

More Shipping of Pulpwood

Conditions for hauling pulpwood to the railway tracks and from the sidings to the cars, have improved greatly in Northern Ontario during the past few days owing to cold weather and heavy falls of snow. There is now good sleighing in various parts of the North and it is expected that a great deal of wood will now be brought out for conveyance to outside points. Shipments which were very quiet for some weeks owing to unfavorable weather conditions, are again much in evidence and a better season than last year is predicted.

No Change of Staff Expected

In connection with the sale of the Canadian Paper Company to the St. Maurice Valley Corporation, it is not expected that the change in ownership will mean any alteration in the staff of the Toronto warehouse where the company has been established many years and has been doing a large business throughout Ontario in the supply of news print, book, writing, wrapping and other lines of paper.

Notes and Jottings of the Industry

J. A. Mathieu, head of the Rainy River Lumber Company and a former member of the Ontario Legislature, was returned by a large majority in the Conservative interests in the recent election for the district of Rainy River. Mr. Mathieu's many friends will be glad to welcome him back in the Legislative Chamber.

R. A. Garrett, of the sales staff of the Interlake Tissue Mills, Toronto, has returned from an extended business trip to the Pacific Coast.

F. T. Thorn, of Price Bros. & Co., Quebec, spent a few days in Toronto recently, calling upon members of the paper trade.

C. Noel Wilde, Trade Commissioner for Mexico, was in Toronto lately interviewing members of the paper industry on the subject of better trade relations between the two countries.

K. Nicol, member of the Montreal staff of the Interlake Tissue Mills, spent a few days in Toronto lately on business.

A dinner meeting of the Coarse Paper Section of the Canadian Pulp and Paper Association was held in Toronto on December 3 at which there was a large attendance of local and out-of-town members.

The Interlake Tissue Mills, Toronto, recently held their quarterly meeting and declared the regular quarterly dividend of 1½ per cent on the shares of the company.

The *Chicago Tribune* and the Ontario Paper Company, of Thorold, Ont., brought a charge of discriminatory and unreasonable rates on shipments of news print against the Canadian National Railways before the Inter-State Commerce Commission. Special rates had been granted to other paper mills, the charge said, while several years' effort failed to get a satisfactory rate for the *Tribune* and Ontario Paper Co.

R. T. Houck, of the George H. Mead Company, Dayton, Ohio, was in Toronto recently on business.

The Christmas number of the Auckland, N. Z., *Weekly News* has arrived in Toronto and is unique in that it is printed on "Maple Leaf" book paper, manufactured by the Provincial Paper Mills, Toronto.

A. P. Costigane, secretary-manager of the Ontario Pulp and Paper Makers Association, Toronto, was in Merritton recently on an inspection trip to the plant of the Lincoln Pulp and Paper Mills and reports much interest being taken in Safety work in that plant.

There has been issued by the United Paper Mills, Toronto, an illustrated booklet of Locarno cover papers in thirteen colors. Locarno covers are embossed and all the plates used in the demonstration book are simple zincs of one, two or three colors. Locarno papers are made in Canada by the Howard Smith Paper Mills and no underlays or double impressions are necessary. Plate sinking is only essential as a matter of design and not to produce a printing surface.

Paper Mill Improvements

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., December 6, 1926.—Five surveys on as many important paper mill properties in the United States are reported in progress by the V. D. Simons organization of Chicago, mill engineers and architects. Mr. Simons and his assistant, F. B. Gilligan, direct supervisor of the immense reconstruction and rehabilitation program of the Bryant Paper Company of this city, were Kalamazoo visitors during the week and Mr. Simons gave a report on future activities.

"Of the five surveys indicated," said Mr. Simons, "three can be mentioned definitely at this time. The other two should develop before the spring months. They have not advanced far enough as yet to make any public announcement. We are now working out a complete plan of development for the Rhinelander Paper Company in Wisconsin, also for the Miami Paper Company, West Carrollton, Ohio, and the Hawley Pulp and Paper Company, Oregon City, Ore. In each instance the plan is looking to an increase in production and a general lowering of costs. Each one of the mills indicated now operates four machines and is credited with heavy production and important industries in their respective localities."

Mr. Simons also announced that the betterment program at the Bryant will be continued during 1927. The Bryant Division finishing room is to be completely overhauled and reequipped; power facilities are to be increased by the addition of a generator, with added boiler capacity later, while there is considerable work to be done at the Imperial coating division.

Bureau of Standards 25 Years Old

WASHINGTON, D. C., December 6, 1926.—A unique birthday celebration took place in Washington Saturday. The National Bureau of Standards of the Department of Commerce was 25 years old and the day was set aside as one on which the Bureau would keep "open house" and welcome its many friends from all over the world. Many distinguished guests, including scientific and technical men, manufacturers, heads of other Government bureaus, and members of Congress took this opportunity to inspect the laboratories and meet the members of the staff. A luncheon was served in the Industrial Building, and in the evening the Bureau's staff acted as hosts at a dinner at the New Willard Hotel. The guests included Dr. S. W. Stratton, the first director of the Bureau, former Secretary Cortelyou, the members of the Bureau's Visiting Committee and others closely identified with the Bureau's work.

This event would be of interest even if it meant only that a public-service organization of the United States Government has successfully rounded out a quarter century of effort, but it stands for more than this.

Twenty-five years ago the United States had no National standardizing institution and in this respect the country was surpassed by Germany, France and England. Manufacturers were forced to send apparatus abroad for calibration or to depend upon a few commercial testing laboratories. At last the demand for an American standards bureau which would function the United States as the Physikalisch-Technische Reichsanstalt had done for Germany became so great that Congress passed the bill creating the present National Bureau of Standards. The bill became a law in the last few minutes of the session which ended on March 3, 1901, and on July 1 of that year the new Bureau of Standards formally took over the limited work of the old Division of Weights and Measures of the Coast Survey.

The original act provided for a staff of only 14 persons and the appropriation for salaries and all running expenses for the first year was limited to $32,040. This was a small beginning, but the new Bureau contained within itself the germ which has made it an outstanding scientific and technical research laboratory of the world.

No matter what line of work one is in or where he lives he is receiving some benefit from the research of the Bureau of Standards. All the weights and measures in daily use ultimately depend on the National standards kept at the Bureau, the design of gas burners has been improved through the Bureau's tests, many parts of automobiles are better today than they were a few years ago as the result of research conducted at the Bureau. American dyes are being improved, domestic chinaware fully equal to foreign ware is being manufactured, and building construction is being improved and strengthened because of the Bureau's investigations. In the technical side of radio the Bureau's experts are the recognized authorities in the world and in the field of aviation much of the basic work is done in the Bureau's laboratories.

During the fiscal year 1925-26 the Bureau conducted nearly 180,000 tests, it has a staff of 800, two-thirds of whom are technically trained, and yet for the whole expenses of this institution every person in the United States paid less than the value of a two cent stamp last year.

For 25 years the progress of the Bureau has been the progress of science in this country, and for the last 10 years it has occupied almost as important a position in technical research. Last year there were 62 research associates stationed at the Bureau by industry to work on special problems of immediate industrial concern.

Superintendents to Meet at Richmond May 26-28

The 1927 Annual Convention of the American Pulp and Paper Mill Superintendents Association, it has been announced, will be held at Richmond, Va., on Thursday, Friday and Saturday, May 26, 27 and 28.

What the Wisconsin Paper Mills are Doing

Northern States Power Co. To Construct Dam at Chippewa Falls at Cost of $3,000,000—Lake Superior Paper Co. to Start New Bleaching Plant About Feb. 1—Neenah Paper Co. Formally Opens Handsome New Office Building

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., December 6, 1926.—Construction of a dam at Chippewa Falls, Wis., at a cost of $3,000,000, is announced by the Northern States Power Company, one of the utilities controlled by H. M. Byllesby & Co. Confirmation of the project is contained in a letter addressed to the city council at Chippewa Falls.

Work will be started either in the fall of 1927 or the spring of 1928. The dam will be built on the Chippewa river but no statement is available at this time as to details of the plan. Some of the current will be supplied to paper mills in the vicinity of Chippewa Falls and Eau Claire, Wis., and it is understood that the former city will discontinue negotiations for taking over the present power plant municipally and will purchase its supply from the new utility.

Lake Superior Paper Co. to Start Bleaching Plant

Operation of the new bleaching plant of the Lake Superior Paper Company, Ashland, Wis., will be started shortly before February 1, according to present indications. Inclement weather has delayed construction work but the structure is almost entirely under roof now and no further obstacles are anticipated. The machinery is ready for installation as soon as progress will permit.

Two new napkin folders have been installed at the Lake Superior mill and another is to be added soon. These new facilities were added to take care of the increase in volume of orders experienced since Rudolph Meyers became manager. The company's warehouses have been full but are now being emptied almost entirely on deliveries for December. The monthly payroll now is $7,000 to $8,000.

Bates Bag Co. to Start Soon

The time when the Bates Bag Company, new subsidiary of the Hoskin-Morainville Paper Company, Menominee, Mich., will start operations is not far distant. With the arrival of the first car of machinery for the newly erected plant at Menominee, the mill is being equipped for manufacture.

All of the building work is completed except for installation of heating apparatus and a sprinkler system. The plant is of fireproof construction and measures 80 by 240 feet.

Valve bags made under Bates patents will be the chief product of this new company. It is expected that the industry will become an extensive one in Menominee, as there appears to be a growing popular demand for this type of bag.

May Erect Splendid Office Building

Negotiations started by the Kimberly-Clark Company, Neenah, Wis., are expected to result in the construction of an office building occupying an entire block. The company intends to buy the Neenah Shoe Company's property to the rear of the present Kimberly-Clark main office, and also the property immediately south of the office on North Commercial street.

One of the finest office buildings in Wisconsin will be erected if the company's plans carry through. The present structure has stood for many years and an addition of two stories was completed only recently so as to provide much needed room.

Another building project of the Kimberly-Clark Company, the new five story building constructed for the Kotex Company, is practically completed. The entire third floor is to be used for officers of the Kotex Company. The remainder will be used for a warehouse and for experimental research work.

Neenah Paper Co. Opens Office Building

Formal opening of the new office building of the Neenah Paper Company, Neenah, Wis., took place on Wednesday, December 1, and was attended by many persons prominent in the paper industry as well as the Neenah public. The out-of-town visitors included W. M. Crane, president of Crane & Co., and president of the Writing Paper Manufacturers Association, and E. H. Naylor, secretary of that association. The visitors were entertained at luncheon at noon at the Valley Inn by the company.

Neenah's civic appearance is enhanced considerably by this new building. It is of Italian Renaissance design, with two stories and basement. Stevens Point sandstone in varying shades of buff, and Indiana limestone, predominate in the exterior. The roof is of variegated red tile. The building, with its frontage of 80 feet, is set back 40 feet from the street so that landscape gardening will be possible.

Private offices of D. K. Brown, treasurer and general manager, and Kimberly Stuart, secretary and treasurer, are beautifully finished in oak. All offices of the company, the advertising department, the laboratory and a women's rest room all are housed in the new building. It is connected to the mill on both floors.

Capacity of the Neenah Paper Company has now reached 30 tons daily on the three machines producing high grade bond and ledger papers. The original capitalization of the company in 1885 at $75,000 has been increased until it now stands at $1,000,000. Officers besides those mentioned are: J. A. Kimberly, president; J. C. Kimberly, vice president; Leo O. Schubart, assistant treasurer, and I. J. Safford, superintendent. On the day of the formal opening of the office, D. K. Brown celebrated his eighteenth anniversary of association with the company.

Working Out Revision of Shifts

Believing that the state of Wisconsin soon will begin enforcing to the letter a law enacted by the legislature in 1919, owners of paper mills are trying to work out a revision of shifts so as to solve the problem created by this new measure. The law, which has been ignored somewhat since it was passed, provides that laborers must be given twenty-four consecutive hours of rest in every seven days. It makes some allowance for emergencies but makes it mandatory on the employee otherwise to take the specified rest.

In view of the method of conducting tour and maintenance crews the paper industry offers a peculiar problem in enforcing this law. The mills operate their machinery and plant six days a week and twenty-four hours a day and it is contended that any curtailment of this amount of production would bring huge losses Repairs have always been made also during the Sunday shutdown so a difficulty is encountered there.

It will probably be necessary to abandon the custom of having the crew that "washes up" the machines Sunday morning start them again Monday morning because of the familiarity of these men with conditions as they were left. The Thilmany Pulp and Paper Company, Kaukauna, Wis., is trying out a plan of rotating its shifts backwards and arranging its maintenance crews so the men will have one day off a week, perhaps Saturday or Monday if they work on Sunday. In rotating the tour shifts backwards, a "strange" crew starts the machines on Monday morning, but it is believed this will not be a serious handicap.

Enforcement of the law is in the hands of the Wisconsin Industrial Commission, and no demand has been made thus far for compliance. However, the commission began a survey a short time ago and asked all mills to fill out questionnaires. It is assumed, therefore, that enforcement will start. The mills intend to be ready.

Raw Materials of Proven Reliability

MATHIESON Chemicals

Liquid Chlorine
Bleaching Powder
Caustic Soda
Solid-Flake-
Ground-Liquid
Soda Ash
Aqua Ammonia—26°

THE manufacturer with a good name to uphold safeguards his product by purchasing only raw materials of proven reliability.

True buying economy subordinates price to a far more important consideration — the reputation of the supplier for consistent fulfillment of all quality and delivery agreements.

The MATHIESON ALKALI WORKS Inc.
250 PARK AVE. NEW YORK CITY
PHILADELPHIA CHICAGO FAIRMONT, W.VA. PROVIDENCE CHARLOTTE

Caustic Soda - Liquid Chlorine
Bicarbonate of Soda
Anhydrous Ammonia

Soda Ash - Bleaching Powder
Modified Virginia Soda
Aqua Ammonia

Deal Direct with the Manufacturer

Uniform Materials Make Uniform Products

Demand for Fine Paper Slackens in Chicago

Production Reported to be Increasing Slightly Faster Than Consumption—Lessened Request Brings No Sharp Price Reduction—Many Dealers Anticipate Complete Recovery of Market by January—Coarse Paper Industry in Satisfactory Position

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 4, 1926.—The fine paper industry is experiencing what might be termed a slump, according to the majority of the fine paper dealers in this city. Whereas the coarse paper dealers, and kraft, manila, wrapping paper and allied lines, are going through a period of great prosperity characterized by mills operating under full capacity, and brisk buying, the fine paper business is dull and, in some instances, shows a marked tendency toward deflation.

Dealers believe that production is increasing slightly faster than consumption demands and that the old law of supply and demand is swinging into play and causing a general lassitude in the market. Until the consumption is taken up or until production is again brought back to normal the fine paper business will not be expected to boom but dealers believe that even by January they may expect to see their market going at top speed again. They point to the fact that in June, when coarse papers were experiencing a slump, they were going through a period of good business and that they may expect their turn to come very shortly, whether the coarse paper market moves backward or not.

Whatever the condition of supply and demand in the fine paper and allied fields there will be no sharp price reduction brought about by lessened demand. The market is low enough now, in fact so low that any market reduction would result in serious injury to dealers. There is no likelihood of this happening, and dealers are confident that the condition will be regulated normally and without harm to anyone.

Progressive salesmen are the forces that have brought around an early holiday buying season, according to coarse paper dealers. These salesmen have made it a point to warn their customers against conditions experienced during the holiday season of last year. At that time buying had been postponed until dealers were unable to supply their customers for any consideration. Any short orders or replacements were impossible last year and many customers were faced with the loss of much business because they had delayed their buying until the supply was all taken up.

This year the situation has been remedied and by far the majority of the holiday trade has been satisfied for some time. One coarse paper house had 60 per cent of its Christmas orders filled and in stock by October 25. It is the dealer that has foreseen the fact that buyers will want their goods early, that is getting the business at this time. One paper house was given an order for one ton of holiday paper, even though this same house had bid higher than another house that could not fill the order.

Expansion of Container Corp. of America

Most dealers in this field are experiencing order instead of chaos. If they have wisely foreseen the early buying, they are able to supply and replace out of a well filled and rounded stock.

The Container Corporation of America this fall took over the Chicago Mill and Lumber Company, paper board division, the Philadelphia Paper Manufacturing Company, the Cincinnati Corrugated Box Company, and the Mid-West Box Company. The latter will maintain its corporate existence, and will be operated with J. P. Brunt as president.

The Container Corporation of America will manufacture box board, including test liners, chip board, solid fiber containers, and corrugated fiber containers. The Mid-West Box Company manufactures the straw for corrugating, test liners, corrugated fiber containers. The Container Corporation makes raw materials for the manufacture of corrugated and solid fiber products.

This combination brings five mills and nine box factories under the control of one organization and forms the largest organization of its kind reputed as doing $25,000,000 worth of business yearly. The mills of the Container Corporation and the Mid-West Box Company have a capacity of 1,000 tons per day.

General offices of the newly formed organization are on the ninth floor of the Conway Building, Chicago. Mills and factories are located in Philadelphia, Chicago, Cleveland, Circleville, Ohio, Fairmont, W. Va., Charleston, W. Va., Kokomo, Ind., Anderson, Ind., and Cincinnati, Ohio.

The merging of the physical properties and interest of four large organizations, greatly increased producing and buying power, multiplied manufacturing facilities and suitable location for short haul shipments makes this new corporation well able to supply a large clientele with its corrugated and solid fiber containers.

Printing Trade Depression

Printers in this district are experiencing a marked depression in their trade and this fact may be the reason for the slump that has hit a part of the paper market. Printers find that those who last year sent out "broadsides" to their customers are this year either dropping the direct mail advertising to a certain extent, because they are not able to bear the additional expense, or because they are too busy filling the orders that came about through previous direct mail advertising. Whatever the case may be, printers are behind their last year's records and, unless something unforeseen happens, they will wind up the year 1926 with less business than a year ago.

Old Paper Business Quiet

There seems to be little or no market in the old paper business and dealers universally report a quiet season. Mills are not purchasing any quantity of old paper and the finer grades, especially, are not in demand at this time.

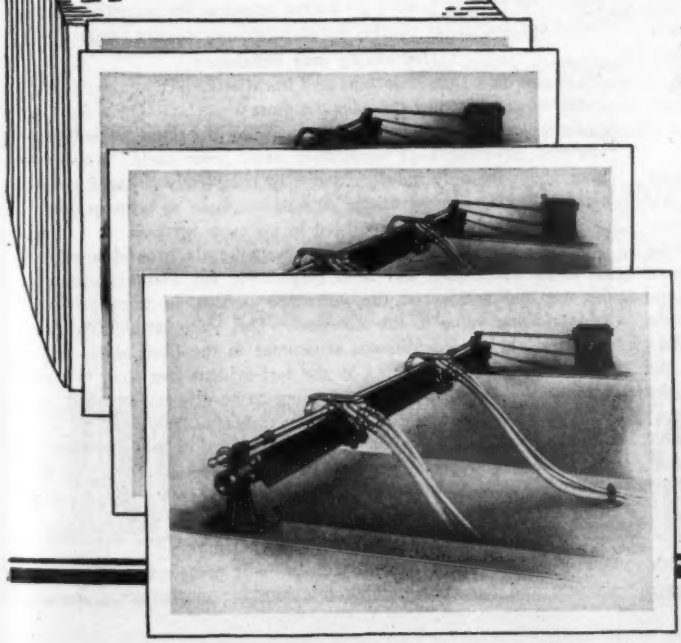
Brotherhood Committee Meeting Postponed

ALBANY, N. Y., December 6, 1926.—The annual meeting of the executive board of the International Brotherhood of Papermakers will not be held in this city during the first week in January as originally planned. The board will convene here, however, on the week immediately preceding the convention which is scheduled to open on March 1, but in some city not yet determined. Announcement to this effect was made by W. R. Smith, president of the Brotherhood. The postponement of the executive board meeting will save the union approximately $600 doing away as it will with the necessity of calling the board together on two separate and distinct occasions with resultant expense. Some of the members of the executive board, notably Simeon Weir, fifth vice president and a resident of Minnesota, and George Schneider, who will be in Washington, D. C., come from long distances.

In view of the fact that the executive board will not meet until a few days before March 1 the choice of the convention city will be made through correspondence. Within the next few days President Smith will write each member of the executive board asking for suggestions as to the convention city. Had the executive board met here in January as it usually does it would have set the place for holding the convention and spent several days in going over various matters that can be taken care of fully as well in February. After carefully considering the expense involved and in view of the fact that the nine men constituting the executive board would also attend the convention it was decided to place the two meetings close together and do away with much of the railroad expense as the convention will probably be held in Montreal or some other city.

BIRD MACHINERY

223 Repeat Orders



Two hundred and twenty-three of the three hundred and fifty Vickery Felt Conditioners sold in this country represent repeat orders.

To the scores of experienced paper makers who invested in additional Felt Conditioners after putting them to the test of actual service in their own mills, the Vickery Felt Conditioner must have proved its ability to earn dividends.

Do you, too, want to increase production and improve the quality and uniformity of your product?

BIRD MACHINE COMPANY
South Walpole, Massachusetts

The **Vickery Felt Conditioner**

Times to Print Copies on Durable Rag Paper

By Waldo Walker in *The New York Times*

On January 1 *The New York Times* will begin to print daily a limited number of copies of its regular editions on a pure 100 per cent rag paper. These copies will be used exclusively thereafter for the regular bound files supplied to libraries and other archives. It will be the first time *The Times* has been printed on rag paper since the Civil War. It will also represent, it is believed, the first instance in which any newspaper has printed an edition on all-rag paper since the inferior but more economical wood-fiber news print universally took its place, beginning in the '70s and '80s.

The return to the time-proof rag fiber for the special library edition has been prompted by a desire to preserve the newspaper record of our daily life in permanent form before it is too late, and by a realization that this is something which rapidly deteriorating wood fiber paper is physically unable to do. Indeed, American journalism from the '70s and '80s up to today appears certain to become eventually a blank.

For example, the bulk of even the 1914-1918 newspaper accounts of the World War has already yellowed and aged so badly in the files that complete disintegration and disappearance are only a question of a few years more. Only emergency measures taken in some far-seeing quarters have preserved some of the newspapers containing the day-by-day record of the war. But though these editions printed on wood paper only ten or twelve years ago are all but scraps, journals and gazettes of the Revolutionary War period, printed on good rag paper 150 years ago, are in shape to be consultable, and evidently will remain so for years to come.

Preventing a Dark Age

Such considerations have forced the conclusion that something had to be done about preserving contemporary newspaper records to save the present era as a whole "from becoming a Dark Age in subsequent centuries."

The tremendous effort that goes into the making of a modern metropolitan newspaper is lost to posterity unless the files can be preserved. Taking figures from *The Times,* because these are more readily ascertainable, it is found that from its annual cost of more than $20,000,000, around $7,000,000 goes into the purchase of news print itself; another $7,000,000 goes into a payroll for 2,000 employees; $220,000 is paid for printing ink; more than $500,000 for radio, telegraph and cable service; to the Postoffice Department goes $830,000; taxes account for $840,000; welfare activities, $300,000, and so on. But if the work measured by such an outlay is not preserved, if it indeed passes out of human circulation, its loss to the future makes it carry a high factor of waste.

The partial return to rag paper in the printing of a newspaper, invoking as it does memories of Benjamin Franklin and the painstaking early Victorians, is sure to carry something of sentimental appeal to those imbued with the spirit of printing craft. Ever since Ts'ai Lun in China, as tradition has it, first produced a mixed rag paper a century or so before the Christian era (and was made a marquis), rag paper has had bound up in it some of the most cherished traditions of the printing art. When Gutenberg and his successors in the Middle Ages pioneered the printing press to its present distinction, rag fiber offered a worthy paper for them to work with. A book dated 1480, when inspected last week, was observed to have preserved all its medieval charm and proved that a printed cotton page could remain not only clear and unblemished up to and beyond five hundred years, but beautiful as well.

High Cost of Rag Paper

Superlative in its durability, cotton paper defies comparison with that made of modern ground wood whose fibers, experts say, break down badly in from five to ten years, like merest shoddy. Wood pulp paper may have taken the other's place for newspaper publishing, but has never once approached its reputation. Where rag failed was in cost—it is six to seven times as expensive. Contrary to what rags popularly connote, to paraphrase, they are royal raiment when worn for printing's sake.

The superiority of rag, or cotton, paper to wood paper is conveniently illustrated in the respective files of newspapers, old and new, to be seen at the New York Public Library. To see what rag paper is like, and how it endures, one need but ask for the file of *The London Times* for the year 1842. The pages of the famous British journal will be found as fresh and sound, save for a mere edging of tan, as probably the day they came from the press. The paper used has proved so strong that it has outlasted several successive bindings.

A look at New York City newspapers, printed on wood fiber in 1914, in 1920, even some of them in 1922, will show them to be wrecks. Still older files of the '90s and the early 1900s are difficult to read, difficult to handle; the life gone. Under repeated handling, the war and post-war editions have been torn from the stitching in the files at a rate to indicate that the original bindery might as well have attempted the sewing of soda crackers. Their pages are obscure and charred to a dull brown by exposure to the light and air. The edges break off in brittle wafers at a touch. The custodians say they find it necessary to sweep out the Forty-second street reading room several extra times a day because of the steadily falling flakes which strew the floor.

When H. M. Lydenberg, in charge of the reference division, found the library's war newspaper record disappearing he resorted to an ingenious Japanese tissue process to save it. He replaced the damaged files with duplicates furnished by the publishers and then faced separately each one of the thousands of new sheets, front and back, with the transparent special film. It gave the pages a gray, out-of-focus look, but retained full legibility and added valuable reinforcement as well as permanent protection.

This protective measure has since been used at the library on all newspapers whose publishers wish to bear the nominal expense. Rare books which could not be replaced are similarly treated. This measure, invaluable as it is, requires hand work, page by page. An edition printed on all-rag paper at the outset saves this treatment and is, of course, better suited to quantity production.

Durability and Efficiency

The warning that historians and librarians voice against further jeopardy of what they consider the most important source for later study of our time is not wholly made with prejudice to certain intrinsic advantages of wood-fiber news print itself. Paper has been about the only industry that ever completely changed its raw material within a generation. It has not done so without justification and without being entitled to go even further.

Discovery of the less expensive raw materials, ground wood and chemical wood pulp, has been responsible for that expansion in the use and service of the newspaper which, in turn, produces its increasing value to the historian. This value would obviously be served by even additional economies in the fiber base. These appear especially warranted by the self-evident fact that, to many readers, a newspaper becomes a thing to be dropped in a car seat or nearest waste container once he who runs has read.

The apparently opposing points of view of those interested in an efficient newspaper seem, therefore, to be reconciled in the plan for the special library edition of *The Times,* a plan calculated to satisfy the convictions of both.

Expense of Other Experiments

The establishment of this edition will come as a climax to thought and experiment along this line for more than a decade.

LATEST DEVELOPMENT IN SHORT LINE DRYING

"Case" enclosed short-line dryer used in drying Wall Paper. Upper tier is drying festoons of paper coming from printing machine. Lower tier drying festoons coming from grounding machines. Each of the five sections of each compartment has its own independent fan and heating coil. Single tier dryers are used for Coated Paper.

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Mr. Lydenberg finds from his files that two other experiments have been made—one by *The Brooklyn Eagle* in 1913, the other by *The London Times*. The Brooklyn paper the year before the World War printed a special library edition for twelve months on a paper stock that was three-quarters rag and one-quarter wood fiber. Files costing $2,367 for the news print alone were furnished to fifteen libraries, which subscribed $14 each, bringing a gross return to *The Eagle* of $210, Mr. Lydenberg said.

The enterprise was discontinued after the paper had taken a loss, independent of labor and overhead, of $2,157. *The London Times* abandoned rag fiber for wood-pulp news print many years ago. Several years ago, feeling the need of a more durable stock for files, it began printing a special library edition on a heavier and better grade of sulphite wood-pulp paper, weighing ninety-six pounds to the ream. This special edition is still being printed.

To comprehend what happens to paper made of wood fiber to make it die comparatively early and what constitutes the superiority of rag paper, one needs an understanding that the former paper is nothing but a mechanical mixture of fibers, reduced from the raw wood, either mechanically by grinding or chemically by dissolving the fibers apart.

Causes of Disintegration

In either event the wood-pulp fibers inevitably retain most of the original impurity, in a paper-making sense, of the raw wood. These impurities are turpentine, resins, gums or sap. These nourishing "fats" remaining in groundwood constitute its weakness. It is with these that light and air play havoc when the file of such a newspaper undergoes oxidation. Chemical wood-pulp paper fares better, experts say, because the chemical treatment produces a certain embalming. But when the "fatty" condition of groundwood paper deteriorates, as described, the atomic cell of such a paper, while retaining temporarily its original form, is but a shell of its former self—dry and lifeless. The result is that groundwood, or mechanical, pulp news print speedily loses its nature. It becomes brittle and discolored as the atmosphere "bleeds" or renders it of its fats.

The theory upon which rag paper is made is that the nearer to a pure cellulose the fibers of a given paper approach, the greater should be the life of that paper. Not only does rag fiber receive the advantage of the embalming effect conferred by being prepared chemically, but, for the purposes of paper, its fiber is far more rugged and is biologically superior to that of wood. One authority, in discussing the relative durability of rag and wood paper, says.

"Rag fibers, properly treated, approach very closely to the pure cellulose state, whereas wood fibers, no matter how carefully prepared, contain many impurities, which disintegrate rapidly. If the refining process is carried far enough to overcome or remove these impurities, the fibers themselves break down and become worthless. Not so, however, with rag fibers. These start off in a nearly pure state. The bleaching removes the coloring matter in the rags, and the gentle cooking and washing process removes the bleach or any other impurities which may exist, so that the resulting fibers are very close to chemically pure cellulose, the basis of the life of paper."

The all-rag to be used by *The New York Times* was selected after numerous tests covering a period of twelve months—pop tests, folding tests, tearing tests. Strips of rag paper and ordinary groundwood news print were placed together and exposed to sunlight over a length of time. The rag paper remained white and clear throughout; the groundwood paper turned brown and brittle as though a scorching hot iron had been left upon it.

Ninety per cent of the rag fiber produced today is used in combination with wood fiber, records of the paper industry show. United States paper money is the only all-rag product in common use. *The New York Times* decided, however, that the special library edition must be printed on a pure 100 per cent rag paper to insure against any chemical process of deterioration continuing in the paper, as would be inevitable if part wood pulp were used. The Forest Products Laboratory of the United States Department of Agriculture at Madison, Wis., reported from samples submitted that the rag paper *The New York Times* finally selected was of a quality that would "last indefinitely."

The all-rag news print to be used by *The Times* in the special library edition was developed in cooperation with the Paper Manufacturers' Educational Association.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 7, 1926.—The Government Printing Office has received the following bids for 53,800 pounds of 38x48—269, single coated book paper: Allied Paper Mills, at 7.99 cents per pound; Bryant Paper Company, 9 cents; Whitaker Paper Company, 8.15 cents; R. P. Andrews Paper Company, 7.63 cents; Barton, Duer & Koch Paper Company, 7.53 cents; Mathers-Lamm Paper Company, 11 cents; Stanford Paper Company, 10.25 cents and 12.5 cents; Dobler & Mudge, 7.6 cents; Reese & Reese, 7.68 cents; and Old Dominion Paper Company, 9.64 cents.

The following bids were received for 39,000 pounds of 24x38—78, yellow sulphite writing paper: R. P. Andrews Paper Company, at 10.85 cents per pound; Barton, Duer & Koch, 7.39 cents; American Writing Paper Company, 8 cents; Dobler & Mudge, 7.5 cents less 1½ per cent; R. C. Osburn & Company, Inc., 7.35 cents; and Old Dominion Paper Company, 9.39 cents.

Also the following bids were received for 11,550 pounds of 26x34½—77, white sulphite writing paper: R. P. Andrews Paper Company, 6.85 cents; Barton, Duer & Koch, 6.38 cents; Virginia Paper Company, 7.305 cents; Whitaker Paper Company, 6.95 cents; American Writing Paper Company, 8 cents; Dobler & Mudge, 6.5 cents less 1½ per cent; R. C. Osburn Company, 6.495 cents; and Old Dominion Paper Company, 8.19 cents.

The bureau will receive bids on December 21 for 110 reams of 24x36 brown Kraft wrapping paper for delivery at the Brooklyn navy yard.

Bids will be received by the Government Printing Office on December 13 for 70,000 pounds (28,000 sheets) of 25x30—No. 20 No. 2 quality binders board.

Fillmore & Slade have been awarded the contract by the Bureau of Supplies & Accounts, Navy Department, for furnishing various east coast navy yards with 492,000 rolls of toilet paper at $40,768.40. The same firm will also furnish 170,900 rolls to west coast navy yards at $13,345.00.

The Stanford Paper Company has been awarded the contract for furnishing 42,400 pounds (265,000 sheets) of high quality coated book paper at 15 cents per pound less 3 per cent, bids for which were received on November 12.

The Davey Company will furnish 36,500 pounds (17,370 sheets) of best quality binders board, various sizes at 6.25 cents per pound, bids for which were received on November 10.

The Stanford Company will also furnish 7,312 pounds (75,000 sheets) of 24x38—97½, yellow bond paper at 14.65 cents per pound, bids for which were received on November 5.

The Whitaker Paper Company will furnish 26,250 pounds (150,000 sheets) of 25x38—140, single coated book paper at 8.05 cents per pound. The R. P. Andrews Paper Company will furnish 10,000 pounds (10,000 sheets) of 26x38—No. 50 lined strawboard at 3.225 cents per pound; 40,000 pounds (28,000 sheets) of 24½x34—No. 36 lined one side box board will be furnished by the Mathers-Lamm Paper Company at 2.254 cents; and 40,000 pounds (20,000 sheets) of No. 2 quality 25x30—No. 26 binders board will be furnished by the Whitaker Paper Company, at 3.4 cents per pound. Bids for all of these items were received on November 3.

The Whitaker Paper Company will also furnish 20,405 pounds (265,000 sheets) of 19x24—77, white machine finish lithograph printing paper at 6.635 cents per pound, bids for which were received on October 13.

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Obituary

M. D. McAlpine

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 4, 1926.—Chicago paper dealers and dealers scattered throughout the entire United States were shocked Tuesday to hear of the death of M. D. McAlpine, vice president of the Bradner Smith Company, and probably one of the best known and most popular paper men in the United States.

M. DeWitt McAlpine came to Chicago in the year 1889 and began his long and useful business career with Bradner Smith & Co. at that time. His first experience in the manufacture of paper was in Marinette, Wisconsin, when he was associated with the Menominee Paper Company, which was, at that time, owned by Bradney Smith & Co., and his splendid record there gave him a wide and varied experience which stood him in good stead when he came to Chicago.

Mr. McAlpine was born in Montville, Conn., in the year 1870, and he was 56 years of age at the time of his death. He was the son of Robert McAlpine, himself a pioneer manufacture of wood pulp paper. He is survived by two brothers, Charles W., of South Bend, Ind., and M. F., of New York City, and one sister, Mrs. L. K. MacNeil of Helena, Montana.

Mr. McAlpine was a member of the Hamilton Club, the Chicago Athletic Club, the Riverside Golf Club, and was a past master of Ashlar Lodge, No. 308, A. F. & A. M., a member of the Oriental Consistory, Trinity Commandery, and the Medinah Temple Shrine.

Funeral services were held at the Methodist Episcopal Church, Berwyn, Ill., Friday afternoon, December 3.

No finer tribute can be paid "Mac," as he was familiarly known by his associates and friends, than the grief evidenced by executives of every paper house in the city. They were universal in the statement that "Mac" was a great paper man, a fine fellow, and a loyal friend." From the first stages of the paper game, Mr. McAlpine worked his way through every department, until he became general manager and vice president of his company. The paper trade has suffered an irreparable loss in the passing of M. D. McAlpine.

Parke Weikert

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 6, 1926.—Following many years association with the Philadelphia paper trade, Parke Weikert, head of Parke Weikert & Co., 28 S. Marshall street, died in that city last week. Mr. Weikert, who was 48 years of age, had been identified with the Quaker City trade for the past twenty years, having previously been connected with the D. L. Ward Company as head of the twine department. He had been associated with several large twine manufacturing concerns, including the Hoffman Corr Company, J. E. Fricke, and later entered business on his own account as Philadelphia representative of the Columbia Cordage Mills. In 1921 he organized the Parke Weikert Company, of which he was president, with Antrim McKay, George B. H. Greenfield, and Philip W. Chase as the remaining officers, and Henry P. Rheinhardt, Warren J. Platt, and Levin Upsheer as directors. His death resulted from a nervous breakdown and cancerous infection of the throat.

George A. Rocheleau

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 4, 1926.—The December 2 issue of the PAPER TRADE JOURNAL carried the announcement of the death of George A. Rocheleau, president of the Protecto Paper Company, Chicago. At that time full particulars of the accident which caused Mr. Rocheleau's death were not available.

It is presumed by employees of the Protecto Company that Mr. Rocheleau fell down an elevator shaft in the building located at 1511 South Sangamon street. Early on Friday morning, November 26, he was seen on the first floor checking over stock and those present in the building at the time of the accident declare that Mr. Rocheleau could not have been any higher than at the second floor when he accidentally plunged to the bottom of the elevator shaft. Mr. Rocheleau died immediately. Funeral services were held Monday, November 29.

George A. Rocheleau has been associated with the Protecto Paper Company, his own concern, since 1918 engaging in the manufacture of wax paper specialties. Previous to the formation of the Protecto organization, Mr. Rocheleau was connected with a number of paper houses, including the H. P. Smith Company, of Chicago, the Wolverine Paper Company, of Otsego, and the Kalamazoo Vegetable Parchement Company.

Although no definite plans have been made in the business, it is thought that Mrs. Rocheleau will take an active part in the work, due to the fact that she had been associated with the company prior to Mr. Rocheleau's death, acting in the capacity of bookkeeper and general office manager.

H. G. Freeman

APPLETON, Wis., December 6, 1926.—H. G. Freeman, former treasurer and general manager of the Fox River Paper Company, Appleton, Wis., died at his home here Friday evening of this week after a week's illness. He was 82 years old and had not been active in the paper company for some time. He was still serving as chairman of the board of directors of the First National Bank, of Appleton.

Mr. Freeman came to Appleton in 1881 and organized the Commercial National Bank, which was consolidated with the First National about ten years ago. While still engaged as a banker he was made treasurer and general manager of the Fox River Paper Company and its capacity increased three-fold during the fourteen years he piloted its affairs. He resigned as manager in 1913 but remained treasurer of the company until rceently.

Mr. Freeman was a veteran of the Civil War, having served with the Forty-first Wisconsin Volunteer Infantry. He was prominent in banking interests in Green Bay in his earlier years before locating at Appleton. The survivors are his widow and one daughter, Mrs. Angeline Freeman Kitson of New York City. Burial was to be made at Appleton.

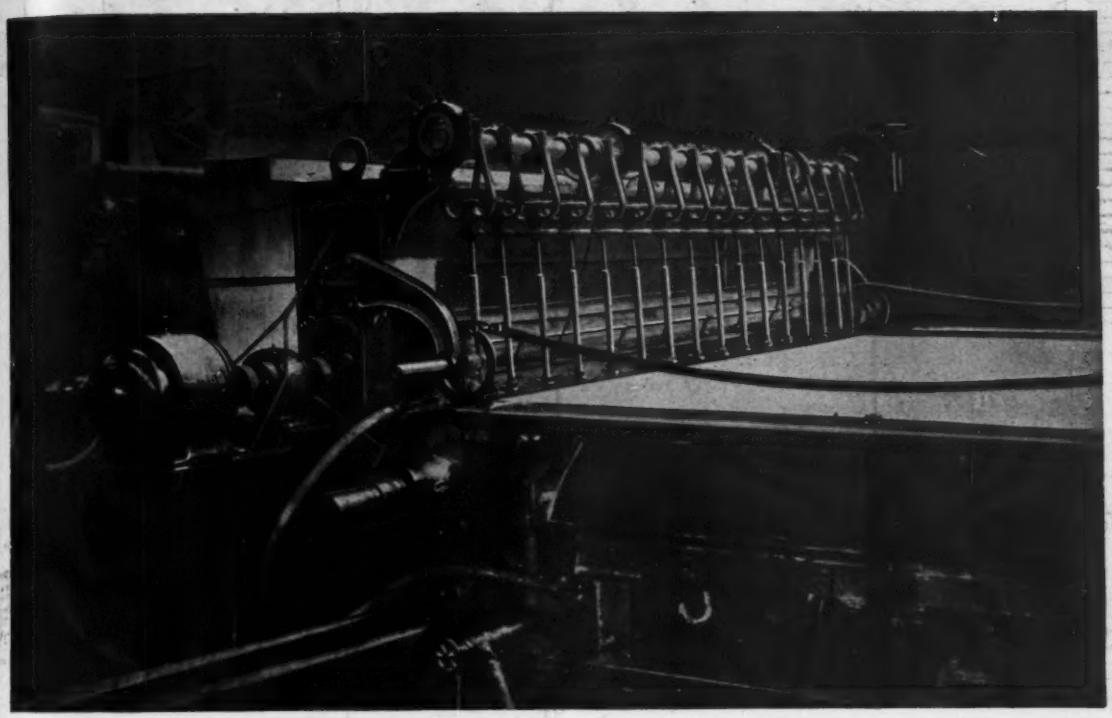
Eugene L. Matlack

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 6, 1926.—Eugene L. Matlack, who for the past score of years has been identified with the Philadelphia branch of the Eaton, Crane and Pike Company, as manager, passed away suddenly at his home, 6142 Oxford street, last Thursday. Mr. Matlack was stricken with a heart attack shortly after he reached his home on Thursday evening after attending a meeting at the Penn Athletic Club. He joined the Eaton, Crane and Pike Company in his early manhood, and later became its district manager. He was in his 48th year at the time of his death. He was prominently active in social, fraternal and business circles, being a member of the Penn Athletic Club, Lu Lu Temple, Philadelphia Consistory, The Trimble Lodge of Camden, and the Brooklin Square Club. Surviving are his widow and two sons, Eugene, Jr., and Robert N. Matlack.

American Writing Mills To Be Sold Dec. 27

HOLYOKE, Mass., December 6, 1926.—For the purpose of expediting the final plans for the reorganization, and acting upon the request of the solicitor, the sale of the properties of the American Writing Paper Company on December 2 as directed by the final decree of the United States District Court for the Southern District of New York, was adjourned by the Special Master—Sidney I. Willson, to ten o'clock in the forenoon of December 27.



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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Piermont, N. Y.—The Robert Gair Company, 350 Madison avenue, New York, N. Y., manufacturer of corrugated paper boxes and other containers, has plans under way for the removal of its main plant on Washington street, Brooklyn, to Piermont, where a large factory has been in course of construction for a number of months past. The new plant is reported to cost in excess of $300,000, and will be completed at an early date. It is understood that the transfer will be made in from 60 to 90 days. Additional equipment will be installed for increased output.

Natick, Mass.—The Natick Box and Board Company, North Main street, has completed plans for the construction of a new one-story addition to its plant for increased capacity, reported to cost more than $20,000, including equipment.

Watervliet, Mich.—The Watervliet Paper Company has work in progress on its proposed expansion program to cost about $750,000, and will push the project to completion. The work calls for the installation of a new paper-making unit, and paper machine is being secured from J. H. Horne & Sons, Lowell, Mass. It is said that this machine will be the largest single unit in the expansion work.

Appleton, Wis.—The Fox River Paper Company, South Appleton street, has awarded a general contract to the C. R. Meyer & Sons Company, 50 State street, Oshkosh, Wis., for extensions and improvements in its mill; the estimated cost has not been announced.

West Carrollton, Ohio—The Miami Paper Company, Carrollton, is said to have plans maturing for proposed extensions and improvements in its mill at West Carrollton, to include the installation of additional equipment for considerable increase in output. The estimated cost of the project has not been announced. V. D. Simons, 431 North Michigan avenue, Chicago, is architect and engineer, in charge.

Sherman, Tex.—Luther A. Day, Sherman, and associates, are said to have plans under way for the establishment of a new local plant for the manufacture of paper boxes and containers. It is understood that a building will be leased and machinery installed at an early date. The initial plant is expected to cost close to $25,000, with equipment. A company will be organized to carry out the project. Richard Chapman, Sherman, is also interested in the proposition.

Menasha, Wis.—The Paper Roll Plug Company, Tayco street, will soon commence superstructure for new additions to its plant, comprising in all a group of seven one-story structures of sizes, two buildings 30 x 100 feet, one 21 x 62 feet, 14 x 30 feet, 21 x 48 feet, and two others. Contracts will be let at an early date for heating, plumbing and miscellaneous completion work. The entire project is reported to cost more than $100,000, with equipment.

Orange, N. J.—The Adams Paper Box Company, 33 Central avenue, West Orange, has completed negotiations for the purchase of property at Forest and Tompkins streets, Orange, improved with a three and two-story structure, on site 75 x 250 feet. The building was used previously for a hat factory and will be remodeled and improved for a new plant for the manufacture of paper boxes and containers. The present plant of the company has recently been acquired by the Monroe Calculating Machine Company, Orange. Equipment will be removed to the new location and additional machinery provided for considerable increase in output.

Olympia, Wash.—The West Coast Pulp and Paper Company has work under way on a new one-story addition to its mill, and proposes to have the structure ready for service at an early date. It is reported to cost close to $75,000, with equipment. H. S. Gile is secretary.

Waterville, Me.—The Hollingsworth & Whitney Company, with mill at Winslow, near Waterville, is arranging for immediate increased production in the pulp division, which gives employment to approximately 1,400 operatives. Full time operations on six-day week schedule will be established, replacing a five-day week, which has prevailed for a number of months past.

Brooklyn, N. Y.—The Prager Company, 233 Thirty-seventh street, wallpapers, has leased space in building No. 1, Bush Terminal, South Brooklyn, and will use for expansion.

New York, N. Y.—The Lenox Wall Paper Company, 106 Seventh avenue, is continuing its proposed expansion program and following the recent acquisition of the former brewery of James Everard at 10-26 East 133rd street, to be improved and occupied for a new works, is reported to have purchased a six-story building on site 50 x 100 feet, at Ninth avenue and Twenty-fifth street. It is planned to make alterations and occupy for general office, showroom, distributing and operating service.

Menasha, Wis.—The Menasha Paper Mills Company, formerly known as the Island Paper Company, is completing alterations in its plant, for which a contract recently was let to the Fluor Brothers Construction Company, 48 Otter street, Oshkosh, Wis.

Montreal, Que.—The Standard Paper Box Company, 6240 Park avenue, has authorized plans for the construction of a new one-story addition to its plant, to cost approximately $25,000, including equipment.

New Companies

Brooklyn, N. Y.—The Flushing Paper Box Manufacturers, Inc., has been incorporated with capital of $10,000, to manufacture and deal in paper boxes and containers. The incorporators are J. and C. Ocovet and J. S. Domyon. The company is represented by L. L. Tergman, 320 Broadway, New York.

Cincinnati, Ohio—The Board and Paper Sales Company, has been incorporated with capital of $15,000, to manufacture and deal in paper and paper products. The incorporators are J. J. Muir, C. C. Benedict and F. D. Levinson, all of Cincinnati.

Indianapolis, Ind.—The Dennison Manufacturig Company, Framingham, Mass., manufacturer of paper novelties, containers, etc., has filed notice of organization to operate in Indiana, with capital of $22,000. Frank W. Strohm, Indianapolis, is local representative.

New York Trade Jottings

R. O. Sweezey, the well known news print specialist, of Montreal, Que., was in town early this week.

* * *

L. R. Wilson, vice president and general manager of the Abitibi Power and Paper Company, Ltd., and president of the Canadian Pulp and Paper Association, is in New York this week.

* * *

L. Seth Schnitman, of the Bureau of Census, Department of Commerce, Washington, D. C., has been renewing acquaintance with his friends in the local paper industry.

* * *

H. M. Elish & Co., of 46 Great Jones street, New York, announce that on February 1, 1927, they will be located at 143-145 West 20th street, where they will have three times the amount of floor space that they have now.

* * *

Mrs. Schenck, wife of Dr. C. A. Schenck, internationally known forester, arrived in New York last Saturday to join her husband, who is at present furthering the cause of forestry in this country. They plan to remain in the United States until next spring.

* * *

O. M. Porter, assistant secretary of the American Paper and Pulp Association, gave an interesting address on "The New Uses of Paper" at the regular weekly luncheon of the New York division of the Salesmen's Association of the Paper Industry, held at the Canadian Club last Monday.

* * *

Darmstadt, Scott and Courtney, Inc., dealers in and importers of paper manufacturers' supplies, of 178 South street, New York, announce that effective December 1, they have temporarily discontinued their Philadelphia branch office, Herman Ahrens, who was in charge of the Philadelphia office, having resigned. All communications in the future should be addressed to the New York office at 178 South street, where careful attention will be given to same.

* * *

Darmstadt, Scott and Courtney, Inc., importers and packers of paper manufacturer's supplies, of 178 South street, New York, announce that Julius Levine is now connected with their organization. Mr. Levine has been in the paper makers' supply business for the last twenty years and is well versed on both domestic and foreign stock. He was for about fourteen years with Castle and Overton and then for a few years had charge of the paper mill supply department of Parsons and Whittemore. The last two years he had been with Stone Brothers until he connected with Darmstadt, Scott and Company on December 1.

Finnish Paper Prices Firm

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 7, 1926.—No changes of importance on the Finnish paper market are reported by exporters, says American Vice Consul Tolman at Helsingfors. News print sales for 1927 deliveries proceed more or less satisfactorily and prices remain firm. The market for thin printings is affected in so far as the political situation in China hampers exports to that country, while a dullness is apparent in the wrapping paper market except for the M.G. kraft grades. September exports from the Finnish Paper Association mills reached 13,259 metric tons (metric ton equivalent to 2,205 pounds) and from the Kymmene Aktiebolag 6,483 tons, making a grand total of 19,742 tons. According to Finnish official statistics exports during the first 9 months of the current year amounted to 153,406 tons in comparison with 158,505 tons during the corresponding period in 1925. Of the 1926 exports, 106,527 tons, or approximately 70 per cent, consisted of news print, the remaining shipments being largely made up of wrapping, writing and tissue papers. The decrease in this year's exports is due principally to the reduction in news print shipments which have fallen off 5 per cent. Shipments of wrapping and writing papers have held at about the same level as last year, while tissue paper shipments have practically doubled. Exports of cardboard, amounting to 30,169 tons, are 20 per cent under those made during the first three quarters of 1925.

The situation in the chemical pulp market has been normal notwithstanding a slight decline in orders from Great Britain, attributable to the coal strike. Finnish exporters have only small quantities in stock and are not affected to any appreciable extent by reported price fluctuations in other markets. The mechanical groundwood mills are threatened with diminished output in the absence of sufficient rainfall and a consequent lack of water. Nevertheless, sales have progressed satisfactorily and about one third of the 1927 output has already been placed. Up to the end of September shipments of sulphite pulp only during the present year have exceeded last year's shipments, sulphate exports having declined by nearly 4,000 tons and mechanical pulp shipments by 10,000 tons. During the first three quarters of 1926 a total of 282,174 tons of wood pulp were shipped to foreign countries, comprising 178,264 tons of sulphite, 53,832 tons of sulphate, and 50,078 tons of mechanical groundwood.

Boston Paper Market Steady

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 6, 1926.—Some of the grades of sulphite bond have shown a tendency to decrease slightly in price, but the market in general for rag papers is maintained on a steady basis. Mills report a good business on nearly all grades. Many of them are operating practically at capacity. The market for coarse paper is decidedly firm. Favorable reports are made in the paper box board section.

The Globe Paper Company, whose office is at 170 Summer street, is removing to a new and larger warehouse at 44 Midway street, South Boston. The floor space of the concern is increased about 50 per cent. The location on the New Haven tracks gives car-loading and unloading facilities.

Z. W. Ranck Heads Civic Association

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, December 6, 1926.—The Civic Association of Middletown is composed of several thousand persons and it is managed, in part, by some of the ablest members of the paper trade.

This week Z. W. Ranck, president of the Crystal Tissue Company, manufacturers of tissue papers at Amanda, near Middletown, was elected president of the Association and will have charge of the organization's affairs during the next year.

When it is realized that the Association is preparing to conduct an important industrial expansion program, mill men will recognize the value of having one of their number directing affairs.

To Draw Plans for Spaulding Pulp & Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., December 3, 1926.—Ernest Schweitz, engineer who has had experience in constructing paper mills in Sweden, is preparing plans for the new plant of the Spaulding Pulp and Paper Company which is to build a paper mill at Newberg, Ore., as previously reported.

Announcement has been made that work will start on this plant probably the first week in December. Joseph Kaster, formerly a superintendent for plants of the Crown-Willamette Paper Company, has been engaged to superintend the work of the new Spaulding plant which will specialize in producing a high grade of sulphite paper.

PAPER TRADE JOURNAL
ESTABLISHED 1872
With Which Is Combined
PAPER
The Magazine of the Paper Industry
HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXIII New York, December 9, 1926 No. 24

PAPER EXPORTS DECREASE

Exports of paper and paper products from the United States during October were valued at $2,204,717, a slight decrease in comparison with the preceding month but somewhat exceeding the value of exports last October, says the Paper Division of the Department of Commerce, discussing October imports and exports.

Reductions in comparison with September occurred in shipments of box board, which dropped from 4,762,000 pounds to 4,011,000 pounds, and of writing papers which show a decrease from 977,000 pounds to 614,000 pounds. Shipments of news print, hanging paper, greaseproof paper, tissue and crepe paper, towels and napkins, paper bags, bristol boards and vulcanized fiber were likewise smaller than during September. Losses in these lines, however, were nearly offset by the heavy increase in shipments of wrapping papers and other classes of board. Exports of the former item, amounting to 3,550,000 pounds, not only exceeded the previous month's shipments, but also those of any other month during the past four years. Exports of paper and strawboards, exclusive of bristols and box boards, wall boards, and building papers were also heavier than during September and exceeded the October, 1925, shipments by 35 to 50 per cent. Other notable increases in comparison with exports during the corresponding month in 1925 were registered in writing papers, box boards, boxes and cartons, and book papers.

Shipments of paper base stocks, while exceeding the previous month's were nearly 30 per cent under those of October, 1925. The total value of this class of exports reached only $372,876, nearly half of which consisted of rags and similar stock.

Imports of both papers and paper base stocks into the United States during October were heavier than during either September or October, 1925. The increase in paper and board receipts was influenced largely by the rise in imports of standard news print paper, which were 25 per cent above the level of the preceding month and 20 per cent above the corresponding month in 1925. Among the minor imports, which reached an aggregate value of $1,423,000 during October, miscellaneous printing and wrapping papers, tissue papers, boards, and boxes increased in volume. The total value of paper and board imports reached $12,915,713 during October in comparison with $10,531,591 during September and $11,629,301 during October, 1925. Imports of paper base stocks comprised 148,428 cords of pulpwood, valued at $1,556,413, and 167,051 tons of wood pulp and other stock, valued at $9,263,315. Nearly all classes show an increase compared with the preceding month, and mechanical groundwood, unbleached sulphite, unbleached sulphate, and old rope in comparison with the corresponding month last year.

ARBITRATION FOR TRADE DISPUTES

The American Arbitration Association announces the enlistment of two thousand business leaders to the ranks of its active workers. They represent every branch of industry and commercial enterprise in the United States. Immediate and inexpensive settlement of trade disputes is assured in every business community in the country through the increased facilities of the Association. It is prepared to furnish arbitrators, rules of procedure and prompt decisions anywhere in America.

The comprehensive plans of the Association are made possible through 243 trade organizations, chambers of commerce, boards of trade and other commercial bodies which have affiliated with the Association. These associations include the American Paper and Pulp Association, American Exporters and Importers Association, the National Wholesale Lumber Association and many others of a similar character.

Behind these and other industrial leaders stands the United States Government. Secretary Hoover and the Department of Commerce are actively supporting commercial arbitration. The Department of Agriculture and the Pan-American Union also are cooperating with the Association. Governmental collaboration in the development of arbitration is assured.

Supporting these active workers are many of the country's major universities. Sixteen of these educational institutions are collaborating with the Association in arbitral surveys of the states. Fellowships in universities have been established for this purpose and for the study and teaching of arbitral procedure. A Council of 25 educational leaders directs this work.

These ranks headed by 243 national, state and inter-state trade organizations captained by commercial and business leaders, supported by the United States Government and reinforced by educational bodies are moving forward in orderly procession to bring every trade dispute in the United States to an arbitral tribunal for immediate, economical adjustment; to relieve the congested dockets of the United States and State Courts; to banish for the business man the worry and expense of litigation, to preserve his capital and enable him to devote himself freely with increased resources to the development of new business.

Operations of the Association's Arbitral Tribunal demonstrate the effectiveness of the system. In the past nine months 233 disputs were handled. Of these 114 were adjusted without formal proceedings. The remaining 119 cases, involving $478,000, were arbitrated at an average cost of $20.50 or an average of one-half of one percent of the amount involved. These 119 cases required 130 hearings and the services of 151 arbitrators who gave their time without compensation. Each of 106 of the cases was disposed of in one hearing. The maximum number of hearings for a case was four.

Members of affiliated organizations are entitled to the services of an arbitral tribunal. The Association maintains a panel of

approximately 1000 arbitrators. In addition to these there are the tribunals installed by the trade associations themselves. No business man need lack for a tribunal in which a dispute may be adjusted fairly, speedily and at a nominal cost.

Trade and commercial organizations are assisted by the Association in the following ways: Construction of arbitration sections for use in constitutions or by-laws binding members to arbitrate business controversies arising between members; assistance in the establishment of arbitral machinery including the organization of tribunals, preparation of standard arbitration clauses, rules and forms; selection of panels of arbitrators; formulation of educational activities to bring such facilities to the attention of members, and development of such other matters as may be peculiar to the trade.

The United States Arbitration Act established the American arbitral policy and procedure. New York, New Jersey, Massachusetts and Oregon have effective laws providing for the settlement of existing and future disputes, and making an agreement to arbitrate irrevocable. In some 40 other states the arbitral practice varies from these. The Association has prepared a model bill which will be introduced into the legislatures of these states this Winter, in an attempt to secure legislation establishing uniform arbitration laws throughout the nation.

October Pulp and Paper Production Statistics

The October production of paper in the United States as reported by identical mills to the American Paper and Pulp Association and cooperating organizations, showed an increase of 0.4 per cent as compared with September's production following an 0.8 per cent increase in September over August, according to the Association's Monthly Statistical Summary of Pulp and Paper Industry. All grades showed an increase in production as compared with September, with two exceptions.

The Summary is prepared by the American Paper and Pulp Association as the central organization of the paper industry, in cooperation with the Binders Board Manufacturers Association, Converting Paper Mills Association, Cover Paper Association, News Print Service Bureau, Wrapping Paper Manufacturers Service Bureau, Writing Paper Manufacturers Association and Paperboard Industries Association.

The figures for October for same mills as reported in September are:

Grade	Number of Mills	Production Net Tons	Shipments Net Tons	Stocks on Hand End of Month, Net Tons
News print	71	143,148	146,411	14,633
Book	61	93,385	96,536	44,001
Paperboard	109	178,716	184,158	44,882
Wrapping	77	52,182	52,138	35,547
Bag	22	12,724	12,789	8,448
Fine	87	30,205	32,004	41,287
Tissue	47	14,896	14,747	14,499
Hanging	7	5,849	7,107	3,640
Felts	14	12,373	12,751	1,987
Other Grades	62	23,091	24,200	15,853
Total—All Grades		566,569	582,841	224,777

During the same period, domestic wood pulp production increased 14 per cent, this increase being distributed over all grades, with one exception. The October totals (mills identical with those reporting in September) as reported by the American Paper and Pulp Association, are as follows:

Grade	Number of Mills	Production Net Tons	Used Net Tons	Shipments Net Tons	Stocks on Hand End of Month, Net Tons
Ground Wood Pulp	96	104,062	94,422	6,931	123,620
Sulphite News Grade	37	42,888	35,118	7,935	9,913
Sulphite Bleached	21	23,445	20,444	3,353	3,016
Sulphite Easy Bleached	6	3,922	3,296	532	1,042
Sulphite Mitscherlich	6	7,421	6,011	1,319	269
Sulphate Pulp	10	16,616	13,701	3,018	1,588
Soda Pulp	11	16,713	12,753	4,497	3,610
Other than Wood Pulp	2	.....	.....	....	19
Total—All Grades		215,067	185,745	27,585	143,077

Glassine Trade Customs

A committee of glassine manufacturers has summarized the trade customs of the glassine industry as indicated below.

COUNT

1. A ream of glassine paper shall consist of 500 sheets.

BASIS

2. The basis of weight shall be on size 24x36—500.

CANCELLATIONS OR CHANGE

3. After acceptance and acknowledgment of an order, the right is retained by the manufacturer to refuse to permit changes or cancellations, unless the buyer agrees to reimburse the seller for any actual expense incurred in the preparation of the order.

Acceptance of orders are contingent upon uncontrollable causes of delay or prevention.

NET WEIGHT

4. No allowance shall be made for the weight of cores, plugs, wrappers, twine or dividers. Iron cores may be returnable within a period of 90 days at price invoiced, freight prepaid by customer.

COMMERCIAL DELIVERY

5. (a) A delivery which averages not more than 5 per cent over or under specified basis weight shall constitute a good delivery on an order, and not subject to rejection or allowance on that account.

(b) All orders are to be accepted subject to a variation of 10 per cent over or under the quantity ordered.

(c) Shipments will be routed at carrier's option unless specified by customer.

FREIGHT

6. All deliveries shall be on the basis of F.O.B. Mill.

7. Terms of sale shall be 2 per cent 30 days, net 31 days from date of invoice.

CLAIMS

8. (a) For the mutual protection of both buyer and seller, claims must be made within thirty (30) days after receipt of goods. No paper on which claim has been made may be used or returned until seller has had opportunity to inspect same or until adjustment has been made.

(b) On the F.O.B. Mill basis (whether with or without freight allowance) claims for loss, shortage or damage in transit, will be made by the shipper, only for account and risk of the buyer.

(c) Where paper is to be cut, printed or converted by or for the customer, no claim for allowance will be entertained after the paper has been cut or printed.

QUOTATIONS

9. Quotations, unless otherwise stated, are for prompt acceptance and are subject to change without notice.

POUND BASIS

10. Quotations made per pound are for base prices only and are subject to all differentials of the quoting manufacturer, for weights, sizes, packing and baling.

James M. Murray Goes to Gatineau Mill

International Paper Company has appointed James M. Murray, now manager of the Three Rivers, Canada, news print mill to be manager of the new Gatineau Mill in Quebec, which is expected to start operations early in 1927. C. W. Walker, now superintendent of the Glens Falls, N. Y., mill will succeed Mr. Murray as manager at Three Rivers. The new Gatineau Mill will have a capacity of 600 tons of news print a day and will be the last word in paper mill construction. Three Rivers, however, with a capacity of 700 tons a day, will still hold the distinction of being the largest paper mill in the world, which it gained during Mr. Murray's incumbency.

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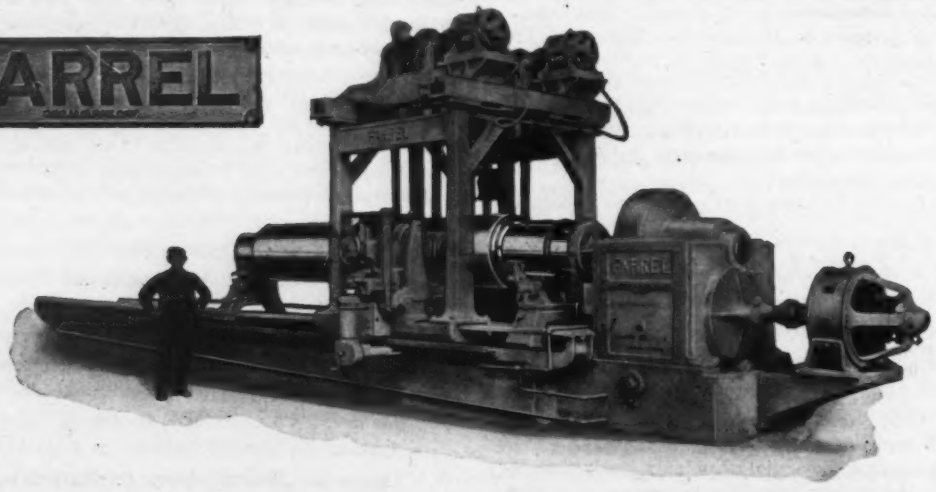
FARREL



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Section of the

Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

The Monosulphite Process

New York, December 7, 1926.

Editor Technical Section:

In the November 25, 1926, issue of the PAPER TRADE JOURNAL, James d'A. Clark, of London, gives a description of the so-called Keebra Process for making wood pulp.

The publication comes very inopportunely inasmuch as there is an intereference case pending between the West Virginia Pulp and Paper Company and L. Bradley and E. P. McKeefe on an application for a patent on cooking wood with monosulphite. Since Mr. Clark has been given the permission to prematurely publish his paper, I feel that the paper trade should be given an opportunity to look into the doings of the other part in the interference case, to get a true picture of the situation.

In the research laboratory of the West Virginia Pulp and Paper Company we have for many years been making experiments on processes for recovering useful and salable products from the spent liquors from the different cooking processes. One of the constituents of the spent liquors, the so-called lignin, was especially attractive as it made up the biggest group of the organic substances that can be reclaimed from the spent liquors.

Peter Klason of Sweden, several years ago, proclaimed that the lignin, whatever its constitution was, is evidently a genuine tanning material. To get it in solution, however, without changing it much is the problem. In the spent bisulphite liquor it occurs as the lime salt of a lignosulphonic acid. The free acid from this salt contains too much sulphur to be a good tanning material; it is only considered a filler in the tanning process.

In the caustic process the lignin is in solution as an alkali compound and is, on account of its alkali, no tanning material. By neutralizing the alkali with an acid, the lignin becomes insoluble in water and for that reason cannot tan. Some group must be added to this lignin to make it water soluble. We found that by reducing the sulphur content in the lignosulphonic acid from the bisulphite cooking or by adding a sulphonic acid group to the free lignin, water soluble tanning materials were formed. The leather made from this different tanning material was perhaps not good enough to satisfy the tanner, but it was certainly much superior to the product made directly from the spent bisulphite liquor.

What interested us most at this time was the easy way in which the free lignin combined with the neutral sodium monosulphite to form a water soluble product, probably a sodium salt of the lignosulphonic acid. If lignin so easily combines with neutral sodium monosulphite it gives an explanation for cooking of wood with monosulphite, given by Cross and Bevan as the fourth method for producing pulp from wood. Cross mentions the method already in 1880, and he repeats this fact in all his books, both in "Cellulose" and "Papermaking." But he says owing to the feeble hydrolysing action of these salts (neutral sulphites) the reaction required higher temperatures (160-180° C.), great amounts of chemicals, and are therefore of theoretical interest only.

It is nearly half a century since Cross mentioned this method, and owing to his great authority, evidently nobody tried the monosulphite method for making pulp.

Having gotten my results with lignin and sodium monosulphite, I took up this cooking method and cooked almost everything containing fibers with sodium and magnesium monosulphites and always got splendid results. I found, however, that Cross evidently had not gone deeply enough in studying the process; the higher yields and the better grade of pulp I got seemed to warrant testing out the method for practical purposes. Owing to the smaller amounts of chemicals needed for cooking straw, bagasse, and cornstalks, I applied for a patent March 12, 1915, for cooking these materials with monosulphites. The patent was issued in June, 1917. My laboratory journal shows that as far back as July, 1914, I cooked poplar wood successfully with monosulphite, but for obvious reasons, no patent applications were sent in at that time. During the War our labor with monosulphite cooking was greatly interrupted as we had the problem of utilising wood pulp for powder purposes put up to us. Also the production of acetone and methyl alcohol for war purposes. After the War the cooking of special woods was taken up again and demonstration before the officers of the Company.

Early in 1921, our late president, John Luke, called me down to the office. He told me that a representatives from the Ticonderoga Pulp and Paper Company had reported a new pulping method to him which was superior to all other methods. Mr. Luke did not ask what chemicals were used, but he thought, in general, the description sounded just like what I had told him about our monosulphite method previously. I agreed with him that it was probably the same method, so much more so since the Ticonderoga gentleman volunteered that they read all our patents and made a note of them.

Our president then urged us to apply for patents at once, so that the Ticonderoga Process (Bradley & McKeefe) should not block us. This was done and now we have the interference case between the West Virginia Pulp and Paper Company on one side and Bradley and McKeefe on the other. So much about the priority.

Then what about the practicability? There is no question about the character and yield of the straight monosulphite process, or as Mr. Clark calls it, the straight Keebra process. We have produced many hundreds of tons of this pulp, especially from jack pine. It is the best pulp we ever produced in our mills, the paper makers howled for this pulp, but it was given up temporarily, because the recovery of the chemicals was not what it should have been. It cost too much. This brings the question back to, you may say, Mr. Cross' time. The process takes lots of chemicals, from 80 to 100 per cent monosulphite, figured on the pulp produced.

This of course may be brought down as the experience goes up. But in any case it is too much to lose.

Consequently, the chemicals will have to be recovered, and on the recovery rests the success of the process. Sodium thiosulphate is easy to get by most of the contemplated recovery processes. But thiosulphate is the poison of the cooking process. Mr. Clark says that 5 per cent of the chemicals may be thiosulphate without any bad effect on the cooking. We find 4 per cent, so that is pretty even. But thiosulphate should be avoided altogether.

Then referring to the so-called semi-Keebra process. This process is what we call in latin a "contradictio in adjecto." If we take the straight monosulphite spent liquor and heat this up with caustic soda in surplus to 150° Centigrade, the process is reversed, and we can titrate all the SO_2 back as sodium monosulphite. Which shows that the process is reversible and caustic soda and sodium monosulphite are working against each other. As a matter of fact, there is no profit in cooking with these two chemicals at the same time, if the caustic is not high enough. There is probably a reducing effect if the caustic is high, and I understand that about 20 per cent monosulphite and 80 per cent caustic is the limit. Anyhow, the benefit in the so-called semi-Keebra process seems to be pretty slight, and does not interest us. The process was, however, patented in Germany by Willie Shacht many years ago, but abandoned because he had no recovery method.

So there we are. Not much novelty in the cooking processes, whichever you prefer. No question about the straight monosulphite process, or, as Mr. Clark calls it, the full Keebra process. The best pulp ever produced, but dependent on the recovery process.

The recovery process given by Mr. Clark, the combination of full Keebra and semi-Keebra seems to me to be a pretty flimsy structure. I know we tried it in several of our mills. That is, we transformed the soda needed to take up the loss of chemicals, from 20 to 15 per cent into sodium sulphite and made straight monosulphite pulp. We made up to 30 to 40 tons a day. But in those days we had no special recovery. The liquors from the monosulphite plant were evaporated together with the soda plant's liquor. It cost too much; we got bad odors, and abandoned the process temporarily.

As soon as we have the recovery process of the chemicals ready, I expect that we will take the production of the monosulphite pulp up again, and I have personally no doubt that this process will be the only process for producing pulp for paper, not only from wood, but also from straw and similar fibrous materials, and not only in this country, but all over the world.

V. DREWSEN.

John H. Manning Paper Co. Completes Flume

[FROM OUR REGULAR CORRESPONDENT]

GREEN ISLAND, N. Y., December 7, 1926.—The John Manning Paper Company is completing construction work on a large flume which extends from the Hudson River to the plant of the company several blocks distant. The company was recently granted the necessary government permission for laying the pipe line in the bed of the west fork of the river. A large steam shovel has been at work excavating for the new flume for about three weeks. The flume crosses the river front property purchased several months ago by the Manning Company and goes through several village streets to the plant. The cost of the project is said to be around $10,000.

At the present time the Manning Company uses water from what is known as the State Basin between Watervliet and Green Island and extending to Cohoes. This basin is fed from the old Champlain Canal at Cohoes and in the event of this canal being abandoned by the state which step has been agitated for two or three years the basin would no longer be available as a water supply. With the new flume connecting with the Hudson River the Manning concern will no longer be dependent upon the basin supply.

Sulphate Smelter Lining Blocks

Most of the sulphate mills of United States and Canada use blocks of soapstone to line the smelting furnaces, although a few use chrome or special brick. An analysis of the sizes of soapstone blocks used by 29 mills on the continent shows a remarkable lack of standard practice. In the interest of cost and to make it feasible for manufacturers to carry a stock of sizes, it would seem desirable that a certain degree of standardization should be developed.

There are, altogether, 90 different sizes of blocks in use, 44 of rectangular shape with three dimensions, 42 of wedge shape with four dimensions, and 4 with five dimensions. Of the rectangular blocks there are 14 sizes used by more than one mill, one size (12 x 12 x 6) being used by six mills; one (18 x 12 x 6) by five; two (12 x 12 x 12) (12 x 6 x 6) by four; four (22 x 7¼ x 7¼) (18 x 12 x 12) (18 x 7¼ x 7¼) (15 x 15 x 9) by three; and six (22 x 8 x 8) (18 x 12 x 4) (15 x 15 x 15) (12 x 12 x 9) (12 x 10 x 10) (9 x 4½ x 4½) by two plants, all the rest being special for a single plant.

Of the wedge shaped blocks with four dimensions in 42 sizes, only two are used by two plants, the rest being special.

The different sizes are listed in the hope that something may be developed.

Mills	Size
	30x7¼x7¼
	24x12x12
	24x12x8
	24x12x6
	24x8x8
	24x6x6
	23½x18x12
(2)	22x8x8
	22x7¼x9¼
(3)	22x7¼x7¼
	21x7x7
	20x20x20
(3)	18x12x12
	18x12x8
(5)	18x12x6
	18x12x4½
(2)	18x12x4
	18x9¼x12
	18x7¼x9¼
(3)	18x7¼x7¼
	18x6x6
(2)	15x15x15
	15x15x12
(3)	15x15x9
	15x12x12
	15x12x6
	15x9x6
	14x12x12
	14x10x6
	13½x4½x2½
(4)	12x12x12
(2)	12x12x9
	12x12x8
(6)	12x12x6
(2)	12x10x10
	12x10x10
	12x10x6
	12x9x4½
(4)	12x6x6
	12x6x5
	10x9½x5
	9½x8x5
	9½x4½x2½
	9x9x9
	9x9x4½
	9x4½x4½
(2)	9x4½x2½

Mills	Size
	18x18x14½x12⅜
	18x12x8⅜x5⅛
	18x12x8x6
	18x12x7 13/32x4⅜
	18x9x5⅛x4½
	18x7¼x6¼x3¼
	18x6x7 13/32x4⅜
	15x12x10x7 5/16
	14x14x12x2
	13½x12x10x7 5/16
	12x6x6x4¼
	12x12x12x11⅜
	12x12x12x9 9/32
	12x12x12x9 5/16
	12x12x12x6
	12x12x10x7⅜
	12x12x8¾x7
	12x12x8½x7
	12x12x8x6
(2)	12x12x7x5½
	12x12x6x9 11/16
	12x12x6x9¼
	12x12x6x9 11/64
	12x12x6x6
	12x12x6x4¾
(2)	12x12x5⅛x4
	12x11x9x9 13/32
	12x10¾x10x8
	12x10¾x5x8
	12x10x9¾x6
	12x9½x4½x2½
	12x9 13/32x9x7
	12x7x6x5½
	12x6x10x7⅜
	12x6x6x5½
	12x6x6x3
	12x6x5 11/16x4¾
	12x6x5⅛x4
	9½x4½x3½x2½
	9x4½x2⅜x2¼
	9x4½x2½x2⅛
	6x4½x3x2 11/16
	18x15x12x5x3
	15x12x12x9x6
	12x12x12x12x9 9/16
	12x12x12x11⅜x10⅜

To Distribute Products of Solvay Process Co.

[FROM OUR REGULAR CORRESPONDENT]

The Solvay Process Company announce that, effective January 1, 1927, a new company known as Solvay Sales Corporation, will, as principal, become the exclusive distributor of the products of The Solvay Process Company.

Solvay Sales Corporation, effective on the same date as above, will acquire the entire business of Wing & Evans, Inc., and will assume, as principal, all contracts executed by Wing & Evans, Inc., covering products of The Solvay Process Company.

The Solvay Sales Corporation will take over the entire personnel of Wing & Evans, Inc. This personnel will become the operating staff of Solvay Sales Corporation, and all offices and branches of Wing & Evans, Inc., will be continued as offices and branches of the new company.

The Rod Mill as a Refiner and Beater

By John D. Rue[2]

I have yet to find the pulp manufacturer who has a thoroughly satisfactory method for refining screenings or a paper manufacturer who is convinced that his method of beating is free from objection. I believe we are all agreed that there is room for improvement along these lines, and what I have to say in regard to the rod mill is offered in the hope that it may lead toward a more satisfactory solution of the difficulties.

Description of the Mill

The rod mill is a machine now commonly used for grinding ore. It consists of a cylinder mounted on a hollow trunnion and rotated about its long axis placed horizontally. It is nearly half filled with heavy metal rods a few inches shorter than its inside length. The rods are designed to lie loosely in the mill and roll or tumble with the rotation of the drum in a position generally parallel to each other, thus pulverizing the material that is fed into the drum through the trunnion. The operation is continuous. Chips, screenings or pulp stock are fed into one end at a constant rate. The ground or disintegrated material leaves the mill through the opposite end. After the mill has been filled to the level of the bottom of the trunnions, the rate of flow outward depends upon the feeding rate.

The experimental mill installed at the Forest Products Laboratory is 3 feet in diameter by 5 feet long inside measure. It is charged with approximately 4,000 pounds of rods. The size of the rods and the material of which they are composed are varied from time to time for experimental purposes.

The mills in commercial operation are either 6 feet in diameter by 12 feet long, charged with over 40,000 pounds of steel rods ranging in diameter from 2½ to 3 inches, or 5 feet in diameter by 10 feet long, carrying a correspondingly smaller charge of rods of the same diameters.

The power required to rotate the laboratory mill at 28 r.p.m. is approximately 11 hp. and to rotate the 6-foot by 12-foot commercial mill at 14 r.p.m. is 90 hp. or less. Comparative data secured from tests made with the two sizes of rod mills on chestnut chips show that the small mill requires about three times the power input per ton needed to obtain similar results in the larger sized mill. This factor may vary as comparisons are made with different types of materials, but is sufficiently accurate for the present discussion.

A more complete discussion of the design and operation of the rod mill has been given in another article.[3]

Refining Knots and Screenings

From the experience which the Laboratory has had in the use of the rod mill, even though the experience thus far is somewhat limited, combined with the information which is available as to the behavior of the mill in grinding ore in the mining industry, we are convinced that it will do an excellent job of refining, will prove itself to be foolproof in operation and economical of power and maintenance, and will show a reasonably practicable capacity.

I will review briefly some of the experimental facts upon which we base our confidence in the rod mill.

Refining Partially Cooked Extracted Chestnut Chips

More information is available with regard to the refining of partially cooked wood, especially chestnut, than with regard to the refining of pulp mill knots and screenings, although both sulphate and sulphite screenings, and even groundwood screenings, have been ground in the laboratory mill.

A rod mill 6 feet in diameter by 12 feet in length has been in operation at the plant of the Southern Extract Co., Knoxville, Tenn., for several months grinding extracted chestnut chips. Only about 25 per cent of the original weight of the chip is lost in the mild chemical treatment employed to soften them before they are ground. That the refining is very thorough is evidenced by the fact that after leaving the rod mill a light jordan treatment is sufficient to prepare the pulp for the board machine. The pulp is not even screened but goes directly to the cylinder vats.

This rod mill refines as much as 15 tons of chips in 24 hours and requires less than 90 hp.; *i.e.*, as little as 6 hp.-days per ton of pulp.

Refining Uncooked Extracted Chestnut Chips

Extracted chestnut chips without any chemical treatment have been ground in the Laboratory 3 x 5-foot mill to a fairly satisfactory pulp. The board made from it is harsher and more brittle than that prepared from the chemically softened wood. The pulp when blended with 30 per cent kraft produces a board of fair strength and toughness.

It is probable that heavier rods, say 3 or 4 inches or larger in diameter, would be more effective in refining this harder material than was the combination of 2, 2½, and 3-inch rods actually used.

Refining Partially Cooked Gum Chips

At the commercial plant to which reference has already been made some 15 cords of gum chips were given a mild chemical treatment with sodium sulphite and soda ash, and the softened chips, representing 75 per cent or the original weight of the chips, were refined in the 6 x 12-foot rod mill. The chips were

Refining Partially Cooked Aspen Chips

consumed less than 90 hp., or 10 hp.-days per ton of pulp. The product was given a very light brush in a jordan and dried to 15 per cent moisture content on a board machine. The fibers were not completely separated at this stage, but the bundles were soft and readily brushed out in the beater and jordan treatment incident to making paper from the pulp. The paper secured in this test was of excellent quality and good white color.

Aspen chips were softened chemically in a manner similar to that used for the gum chips. They were ground in the Laboratory rod mill and run directly into paper of excellent quality on the Laboratory fourdrinier machine. The power required to refine the softened chips, reduced to the basis of 6 x 12-foot rod mill operation, was approximately 10 hp.-days per ton, the same as that already noted for refining the gum chips.

Refining Kraft Screenings

Screenings are not unlike the softened chestnut, gum, and aspen chips, except that the former are somewhat less uniformly softened by reason of the uneven penetration of the cooking liquors. They respond satisfactorily to the refining action of the mill.

Through the courtesy of the Thilmany Pulp and Paper Company, Kaukauna, Wis., the Laboratory had the opportunity to refine some kraft screenings. They were passed through the Laboratory mill at various rates, viz., 26.8, 17.8 and 8.9 pounds, oven-dry, per hour. The mill contained 3,720 pounds of steel rods and was rotated at 28 r.p.m. The power consumption corresponding to the three rates of feeding was 31.4, 47.4 and 94.6 hp.-days, respectively, per ton of pulp. On the basis of the power relationships noted in connection with chestnut and gum chips, the degree of refining obtained in the small mill should be secured in the

[1] Presented at the meeting of the Northwest Division of the Pulp and Paper Mill Superintendents Association, Green Bay, Wis., Oct. 16, 1926.

[2] In Charge, Section of Pulp and Paper, U. S. Forest Products Laboratory, Madison, Wis.

[3] Rue, J. D., and Wells, S. D., The Rod Mill in the Pulp and Paper Industry. Paper Trade Journal, Vol. 83, No. 12, September 16, 1926, pp. 53 to 54.

large mill with 10.5, 15.8, and 31.5 hp.-days, respectively, per ton of pulp.

The product from the test at the first feeding rate, 25.8 pounds per hour, was well refined except for a sprinkling of soft fiber bundles that would brush out readily in the beater. In the second and third tests the fiber bundles were more thoroughly eliminated, although the improvement in the degree of refining obtained in the third test was not commensurate with the additional power consumed. In addition to the greater degree of refining obtained with the slower rates of feeding, a very appreciable amount of hydration was accomplished, as was evidenced by the higher strength of the hand sheets made from the pulps. The results of Mullen tests for the three pulps were 0.57, 0.78 and 0.75 points per pound per ream respectively.

It may be concluded, therefore, that by using a 6 x 12-foot rod mill the kraft screenings tested could have been satisfactorily refined with an energy input of approximately 10 hp.-days per ton and that with an additional 5 hp.-days the product would require very little beating to prepare it for the paper machine.

Refining Sulphite Screenings

Through the courtesy of the Wausau Pulp and Paper Company, Brokaw, Wis., The Forest Products Laboratory had the opportunity of grinding some sulphite screenings in the rod mill. From the short test it may be concluded that a satisfactorily refined product can be obtained with a 6 x 12-foot mill with an expenditure of not to exceed 15 to 18 hp.-days per ton of pulp.

Refining Groundwood Screenings

Groundwood screenings are essentially raw wood. The forces binding the fibers together are as great as they are in the log. It is far more difficult to rub the fibers apart than it is in the case of chips or screenings which have been subjected in some degree to a chemical treatment. I believe, however, that the rod mill can be used to advantage in refining groundwood screenings. Some indication of the effectiveness is given by the fair quality of product obtained from this material in the Laboratory mill. Rods of larger diameter would doubtless be more efficient than the mixture of 2, 2½, and 3-inch rods used in the experimental mill. From the brief qualitative test made at the Forest Products Laboratory it is estimated that satisfactory refining could be accomplished in a 6 x 12-foot mill with a power consumption of approximately 25 hp.-days per ton. At that rate, therefore, the mill would have a capacity of only 3.6 tons per 24 hours.

General Observations on the Rod Mill as a Refiner

In using the rod mill as a refiner there are several points that should be observed if the best results are to be obtained. In the first place the mill must not rotate too fast, as otherwise the rods will drop rather than roll down the surface of the rod bed. Some free fall is desired in crushing brittle mineral material to secure the desired shattering effect, but with fibrous material sudden blows are to be avoided. There is desired rather the rubbing and pounding action which comes from the rolling of the rods over each other. The speed of rotation will, therefore, be found to be somewhat less than recommended for ore grinding. The rods will not be lifted so high at the lower rate of revolution and the power required will be less.

In the second place a feeding device should be used that will insure positive transfer of the material to the interior of the mill. A worm screw has been found satisfactory.

In the next place it is important that water be fed into the mill with the material to be refined and that the two be properly proportioned. Too dilute suspensions do not provide sufficient cushioning action between the rods to avoid excessive cutting of the fibers. On the other hand too dense suspensions provide so much of a cushion that the action of the rods will not be efficient. Moreover, the material will in such cases be unevenly distributed through the mill and cause the rods to lose their parallel position with respect to each other, a condition resulting in low refining capacity and a possible tendency of the rods to work out through the hollow trunnion. It has been found that a consistence between 4 and 8 per cent insures good operation.

Finally, the size and weight of the rods must be adjusted to the work to be done. Tough material, the fibers of which will withstand severe rubbing and pounding, should be refined with heavy rods of large diameters, whereas material whose fibers are rather brash or brittle should be refined with rods of small diameter or even with tubes with a virtual density lower than that of rods.

The Rod Mill as a Beater

A description has already been given[4] of the preliminary application of the rod mill at the Forest Products Laboratory to the beating of sulphite pulp for greaseproof papers. Further studies are under way to determine the extent to which the mill can be adapted to the production of sulphite papers less thoroughly hydrated than greaseproof and to the production of kraft papers. While these investigations are not yet completed, some preliminary conclusions are warranted.

What I have already said with regard to the speed of rotation of the mill and the consistence of the stock applies with equal force when considering the rod mill as a beater for chemical pulps. The consistence should be between 4 and 8 per cent, preferably about 6 per cent. Slush stock may be deckered to a consistence in excess of 6 per cent and, together with the required water, fed into the mill with a worm screw. Wet laps and dry sheets may be shredded directly into the worm feeder and the water added continuously. The degree of beating will be determined by the rate at which the pulp is fed into the mill, or, in other words, by the length of time the pulp is under the action of the rods.

In any given operation the power required to operate the mill is a constant determined by the speed of rotation and of the weight of the rod charge. It is affected very little by either the manner or the rate of feeding the pulp to the mill. For that very reason, however, the power per ton of pulp is determined almost solely by the rate of feed.

The results thus far obtained at the Laboratory with a southern kraft indicate that with the expenditure of about 15 hp.-days per ton in a 6 x 12-foot rod mill the pulp, without further beating or jordaning will produce a paper equal to the usual commercial grade made from the same pulp. The 6 x 12-foot rod mill would in that case have a capacity of 6 tons per 24 hours. The usual power for beaters and jordans, we understand, is from 25 to 30 hp.-days per ton.

A preliminary test with a Mitscherlich sulphite indicates that a large mill would have a capacity of 10 to 15 tons per 24 hours and a corresponding power requirement of 9 to 6 hp.-days per ton.

Potential Values of the Rod Mill

I have presumed to discuss with you in rather general terms some of the indications which our preliminary investigations give to the potential values of the rod mill as applied to refining knots and screenings and to beating chemical pulp. As our investigations proceed, the indications may be modified or they may be more fully substantiated. In any case it is our hope that the information now available will stimulate careful investigation on the part of the superintendents and that you may be induced to study the application of the rod mill to your individual problems. You may be sure that the Laboratory will gladly cooperate with you if you desire to test its merits in your mills.

[4] Rue, J. D., and Wells, S. D., The Rod Mill in the Pulp and Paper Industry, Paper Trade Journal, Vol. 83, No. 12, September 16, 1926, pp. 53 to 54.

Paper Research of The United States Bureau of Standards During 1926*

It is the custom to publish a yearly report similar to the present one, summarizing the work of the paper section of the United States Bureau of Standards. Most of the subject matter has previously been given more or less general publicity through the medium of newspaper items, the bureau's monthly, "Technical News Bulletin," and reports of a more extensive nature published in trade journals and in the regular Scientific and Technologic papers of the bureau. However, in addition, summary is considered desirable, as it shows in a connected way the general trend of the work. It also brings together in one publication brief reports of the various researches. This is desirable for the information of those interested who may not have been informed of them through publicity channels mentioned.

For the information of those desiring more detailed data on the researches mentioned, all bureau publications relating to them are listed. If the results of a research have not been published, the bureau will be pleased to record the name of anyone interested for the purpose of informing him when a publication is available. Bureau papers can be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. A limited number of reprints of articles published in trade journals are received and copies are furnished by the bureau without charge, as long as the supply lasts. General information on the bureau's functions and activities is given in detail in "Circular of the Bureau of Standards, No. 1." (Government Printing Office, 1925, Price 50 Cents.)

I. TECHNICAL STANDARDIZATION OF PAPER

1. Testing Methods

Opacity of Paper

Results obtained in continued use of the Bureau of Standards opacity tester, described in bureau Circular No. 63, show that this is a very accurate and practical means of measuring the opacity of paper. It has been used extensively in bureau investigative work on thin book papers, envelopes, and the windows of window envelopes. As it is in use by several industrial concerns it has been possible to make a number of check tests with different instruments and different operators. The agreement in such cases has been found to be within 1 per cent of the total reading. Scale settings of an instrument can be repeated for any two given areas of a test specimen to this same degree of accuracy. In the case of thin book papers, the showing through of printing was found to accord with their opacity values. The use of this instrument was specified in Government stamped envelope specifications, and it has been found satisfactory for this purpose. It is also specified in the tentative specifications suggested for the windows of window envelopes.

Air-Conditioned Testing Cabinet

Paper is hygroscopic and as its physical properties are considerably affected by its moisture content, strength tests and other physical tests must be made under definite hygrometric conditions. As apparatus for maintaining these conditions in the usual laboratory testing room is quite expensive, most of the industrial laboratories lack such equipment. To assist in remedying this situation, an inexpensive air-conditioned testing cabinet has been developed. The testing instrument is placed inside the cabinet, and the test specimens are handled by means of long-sleeved rubber gloves fastened to apertures in the cabinet, thus obviating the necessity for exposing the interior of the cabinet to the surrounding atmosphere. A constant relative humidity is maintained in the cabinet by circulating the air through a solution of sulphuric acid, the relative vapor pressure of which is determined by its density. Details of the cabinet and some results obtained with it are given in a paper presented by F. T. Carson at the February 1926 convention of the Technical Association of the Pulp and Paper Industry and published in the Association Papers, June 1926.

Tensile Strength Testers

In further study of the tensile strength testers, additional comparative test data have been obtained with six commercial instruments. Two of these are the small portable type especially adapted to making tests in the field. Some of the others were instruments that had been improved in design since previous tests were made. It was found, as before, that concordant test results were obtained with different instruments of the swinging arm or pendulum type. A type in which the force required to break the test strip was indicated as pressure within an ordinary hydraulic cylinder by means of a Bourdon tube pressure gage gave appreciably lower results than the pendulum type. The portable instruments showed fair agreement with similar types of the larger laboratory instruments. The results of this study led to specification of the pendulum type of instrument by the Technical Association of the Pulp and Paper Industry in its official method for determining the tensile strength of paper.

Measurement of Degree of Sizing of Paper[1]

Thirty-eight methods proposed by various investigators for measuring the rate at which paper absorbs aqueous liquids, relative to its degree of sizing, have been listed and briefly described for the first time in one publication. These methods have been critically examined, classified, and compared experimentally. Stress is laid on the essential difference between the degree of surface sizing and the degree of internal sizing, the paper dealing with the latter only. The lack of concordance of the various methods has been traced to the influence of selective adsorption from solution and of an extraneous resistivity. A test of the rate at which water penetrates into paper is considered the most logical and useful method of measurement. This conclusion was confirmed by the results of tests using methods of this type developed at the Bureau compared with other types of sizing tests commonly employed.

Wet-Rub Tester

In connection with research on currency paper, it was necessary to find a means of determining the resistance of the paper to surface abrasion. A test for determining this property is commonly made by rubbing the paper with a moistened finger and noting the resistance of the surface of the paper to disintegration. A machine was developed which gives a numerical measure of this property and with which excellent results in respect to reproducibility have been obtained. The machine consists of (1) a means of fixing the paper specimen on a plane metal surface, (2) a mechanical finger containing a circular rubber contact surface, (3) a power driven crankshaft which moves the mechanical finger back and forth so that the rubber disc rubs the paper, (4) a rubber-tube syphon which drops water on the paper, having the outlet end so attached to the front of the mechanical finger as to keep the paper moistened in the path of rubbing, (5) an automatic counter to record the number of rubs required to wear a hole completely through the paper. As this test is commonly applied to many other surface-treated papers, such as blue-print, map, and ledger, a publication is being prepared which will contain complete details of the machine and data illustrating its performance.

* Published by permission of the Director of the Bureau of Standards of the United States Department of Commerce.

[1] Bureau Technologic Paper No. 326, Measurement of the Degree of Sizing of Paper, F. T. Carson.

Mullen Paper Tester

In view of the extensive use of the Mullen Paper Tester for determining the bursting strength of paper, the Bureau has studied this device in cooperation with the manufacturer with the object of eliminating sources of error in test results obtained with such instruments. One such source is the rubber washer which constitutes the gripping surface of the clamp, as test results vary with the age of the washer. Experiments made with a clamp and base designed to eliminate the washer show that it can be dispensed with.

Data obtained showed that tests applied to the two different sides of a sheet of paper give in many cases a consistent divergence in the results. In consideration of this, the Technical Association of the Pulp and Paper Industry Specified in its official testing method that the bursting strength reported shall be the average of an equal number of tests applied to each side of the paper.

Flexibility of Paper

The flexibility of paper, or its serviceability when subjected to repeated creasing or folding, is of considerable importance. Tests made by repeatedly folding the paper under tension until it breaks and counting the number of folds it will withstand give the best indication of the probable resistance of paper to strains incident to its usage. The instruments available for making such tests are not entirely satisfactory owing to the long time required to complete the tests and the considerable variation in test results. An attempt was made to develop a more suitable test method based on creasing the paper between rolls under uniform pressure and applying a tensile test to the creased paper. While this method is of service in testing weak papers, it fails when applied to strong papers, as the paper rarely breaks at the crease. Quite good results were obtained by applying a tensile test after folding the paper a limited number of times in a folding instrument. Tests made of the effect of varying the tension of folding instruments show that the tension is a very critical factor. Increasing the tension from 1 to 1.5 kg. generally decreases the folding endurance more than 90 per cent.

Official Paper Testing Methods of the Technical Association

The bureau is actively cooperating with the Technical Association of the Pulp and Paper Industry in its formulation of official paper testing methods, this project having been initiated during the past year. The methods are tentatively formulated by the Paper Testing Committee of the association and are then forwarded to all members of the association for vote by letter ballot respecting adoption. A member of the bureau staff is acting as chairman of the Paper Testing Committee and assistance in researches required in development of methods given in the bureau paper laboratory. Nine methods have been adopted by the association, these being bursting strength, tensile strength, quantitative determination of rosin, nitrogenous matter, paraffin and mineral coating, sampling, fiber composition, and atmospheric conditions. The committee is proceeding with additional methods, twelve more having been formulated and forwarded for the consideration of the association as a whole. The paper technical association consists of over 700 technical representatives of various branches of the paper industry, including both manufacturers and consumers; therefore official sanction of paper testing methods by this organization should go far toward establishing them as standards.

2. Specifications

Waterproofed Case-Lining Paper

Investigation of waterproofed case lining papers was made at the request of the Bureau of Foreign and Domestic Commerce to develop information to aid overseas shippers in their selection of such papers. The type found most suitable was duplex asphalted kraft paper. As existing methods of testing the water resistance of such paper were found inadequate, research was conducted to find a suitable method of test. This resulted in the development of the "Ground Glass" method which is considered satisfactory for this purpose. Specifications of water resistance, strength, and weight were formulated, which are believed to define paper of suitable quality. The results are reported in bureau Technologic Paper No. 312, A Study of Test Methods for the purpose of Developing Standard Specifications for Waterproofed Case Lining Paper, by B. W. Scribner and F. T. Carson.

Windows of Window Envelopes

The use of window envelopes has become extensive owing to the economy in labor and time which they bring about. This widespread use is a matter of concern to postal authorities, as windows of inferior quality delay in handling mail, and considerable eyestrain on the part of postal clerks. For these reasons the bureau is collecting data to assist in establishing standard specifications of quality for the windows.

The main requisites of windows are high transparency or its equivalent low opacity, and low gloss, as deficiency in either respect makes the reading of the address more difficult. With the cooperation of manufacturers, representative samples of practically all domestic window envelopes were secured and the windows tested for opacity and gloss. The transparency was determined with the bureau apparatus described in Circular 63. The Ingersoll Glarimeter was used for measurement of gloss. Windows having opacity not greater than 0.20 contrast ratio and gloss not exceeding 80 per cent are satisfactory. A technologic paper reporting the results is in preparation.

Fiber Wall Board

Research was instituted to assist in formulating Federal purchase specifications for fiber wall board. Ten manufacturers are actively cooperating in this work. A flexural strength test was found desirable as a measure of the probable resistance of the board to service strains. The method finally formulated consists of suspending a strip of the board on two parallel rods and applying an increasing load at the center of the strip through a rod placed across the top parallel to the supporting rods, until the strip breaks. An important consideration is the possibility of warping of the board after erection due to expansion caused by absorption of atmospheric moisture. An extensometer was devised for accurately measuring the expansion of various types of boards in a moisture-saturated atmosphere. Further study is being made to develop a simple expansion test suitable for use in the field.

MATERIALS AND PROCESSES
II. STANDARDIZATION OF PAPER-MAKING

1. Materials

Stipa Ichu Grass [2]

At the request of the Ecuador Legation, paper-making tests were made of stipa ichu grass, which is native to Ecuador. While the tests were made on a laboratory scale only, the results indicate that this material offers little possibility as a source of paper fiber. The yield of pulp by the caustic process was only 25.5 per cent. This pulp had poor bleaching quality and the more severe cooking treatment required for producing bleachable pulp would further decrease its yield. The fiber was short and not very strong, being similar in paper-making characteristics to soda pulp secured from deciduous woods.

Bamboo Pulp

Study was made on a laboratory scale of a sample of unbleached bamboo pulp received through the Bureau of Foreign and Domestic Commerce from a mill in the Philippine Islands. The details given as to the manufacture were: The bamboo is cut into lengths from 1½ to 2 feet and the joints removed. These lengths are crushed between rollers and cooked in a 20 per cent soda solution. The fibers were found to have the following mean dimensions: Length, 2.62 mm.; diameter, 0.017 mm. The best papermaking results were obtained with a rather mild beating treatment. The strength of the bamboo paper compared well with that of strong sulphite pulp. It was concluded that the pulp would be suitable for such papers as wrapping or board.

Waste Fiber From Manila Rope Manufacture

The results of laboratory papermaking tests of waste fiber from the manufacture of manila rope indicate that this material may

[2] Stipa Ichu Grass as a Papermaking Material, M. B. Shaw and G. W. Bicking, Paper Trade Journal, Oct. 28, 1926.

possibly be employed profitably for paper making. The tests were made on samples submitted by the Navy Department from its Boston Navy Yard rope manufacturing plant. About 200,000 pounds of the material are available annually. The waste fiber is very fine and bulky and contains 14 per cent of oils, these being derived from the oils used in the rope-making process. It was pulped, as received, with various alkaline chemicals. The best appearing paper was secured by the use of caustic soda. This process gave a pulp yield of 35 per cent. The paper was suitable for wrapping, comparing favorably with sulphite manila wrapping in strength. Much better results would no doubt be obtained by extraction of the oils before pulping.

Caroa Fiber[3]

Semi-commercial papermaking tests of caroa fiber from Brazil have confirmed the excellent laboratory results previously reported. The yield of pulp obtained from the shredded material is around 50 per cent using caustic soda as the reducing agent. In the character of the papermaking processes required and in its strength and other properties, caroa fiber paper closely resembles high grade rag fiber paper. Papers made from pulps produced by various modifications of the pulping process ranged in bursting strength from 50 to 60 points, and in folding endurance from 1800 to 3900 double folds, for 60 pound paper (basis; 500 sheets, 25x40 inches). These results are of particular interest in view of the increasing scarcity of papermaking rags. Information at hand indicates that with sufficient demand, caroa fiber could be obtained in sufficient amount for papermaking purposes and at a cost that would allow it to compete with papermaking rags.

2. Processes

United States Paper Currency

Research on United States paper currency was instituted for the purpose of improving its quality and fixing standards of quality and of the processes for obtaining them. This work is being done in cooperation with the Treasury Department, the Bureau of Efficiency, and the manufacturer.

The main problem relates to wearing quality, as the life of the paper currency had decreased to about one-third of its former value, causing excessive expenditures for replacement. The paper manufacturing processes are being studied on a semi-commercial scale in the bureau paper mill. Modification of the nature of the beating treatment of the paper fiber resulted in a marked improvement in the strength of the currency paper. By brushing out the fibers well and leaving them long, paper of satisfactory printing quality and having over double the strength of the paper in use was produced. The manufacturer applied this practice developed in the bureau's semi-commercial plant to commercial mill practice with satisfactory results. Another line of research being followed deals with the surface sizing of the printed currency. It was found that increased resistance to surface wear could be obtained by hardening the present glue sizing by after treatment with formaldehyde.

This work has enabled the Treasury Department to revise the technical requirements of its currency paper specifications in such a way as to provide for paper of more than double the strength previously specified and such paper is now being obtained with no increase in cost. The following publications give details of this research:

Research on the Production of Currency Paper in the Bureau of Standards Paper Mill; M. E. Shaw and G. W. Bicking. (Bureau Technologic Paper.)

The Glue Surface Sizing of Paper; G. K. Hamill, V. H. Gottschalk, and G. W. Bicking. (Paper Trade Journal, Dec. 2, 1926.)

Use of Glue in Coating Paper[4]

As a summary of the research work in collaboration with the National Association of Glue Manufacturers, a demonstration of the use of glue in coated paper was given to representatives of the glue and paper industries. Using formulas that had been evolved for use at room temperatures with the semi-commercial equipment available, four lots of paper were coated. Three widely different grades of glue were used and one lot was made with casein for comparison. On the third day of the demonstration, samples of the papers coated were printed in the half-tone press room of the Government Printing Office.

This research has shown that variations in the type of stock coated, the materials entering into, and the method of preparing coating mixtures, equipment, and working conditions of the coating, drying, and finishing operations, influence the appearance of the finished coated paper and the amount and proportion of adhesive required to obtain a coated paper of satisfactory printing qualities. Variations in inks and in printing conditions and practice have been noted as affecting strongly the tendency of coated papers to pick or lift during the printing operation. It was also indicated that with proper selection of the glue used and adaptations to local conditions and product requirements the use of glue in coating paper requires little change in equipment or operating technique from procedure with casein; and that except in possibly some lithographic or offset processes where an extraordinary degree of waterproofness is required, the use of glue-bound paper offers no new difficulties to the printer.

Glue Beater-Sizing Paper[4]

Additional study was made in cooperation with the National Association of Glue Manufacturers of the use of glue in beater sizing paper. Five lots of glue comprising high, medium, and low grade hide glues, and medium grade bone glues were studied in relation to their effect on the sizing quality and strength of writing, book, and wrapping papers. Papermaking trials were made in the semi-commercial mill. No difficulties in the use of the glues occurred, either as regards foaming of the stock or formation on the machine if care was taken to control the acidity of the stock. An acidity of pH 4.5 was found satisfactory. Fairly high retention of glue was obtained, the hide glues being superior to the bone glues in this respect.

In general, the main improvements in the quality of the papers were in the more intangible properties, such as formation, "feel," and "rattle." The glue in itself imparted no additional water resistance but increased the effectiveness of the rosin sizing. As regards strength, the glue had a beneficial effect on both the folding endurance and the bursting strength of the weaker papers, but the effect on the stronger papers was rather slight. In all cases, however, the glue tended to overcome the brittling effect of rosin sizing. A few tests of the effect on retention of filler in book papers indicated that increased retention can be obtained by the use of glue. A report of this work will be published in a paper trade journal.

Glue Surface-Sizing Paper

Fine Papers are ordinarily sized to obtain a smooth non-absorbent surface by immersion in a bath of animal glue. Such surface sizing also effects marked changes in the strength and resistance to wear of paper so treated.

During investigational work on the manufacture of rag papers at the bureau's experimental paper mill, papers were produced weighing about 22.5 pounds, 17 x 22 inches, 500, that had a minimum folding endurance of approximately 2500 double folds for 100 per cent cotton fiber paper, and up to 5000 double folds for a 75 per cent linen fiber—25 per cent cotton fiber paper, these tests being made on the waterleaf (unsized) papers. Ordinary tub-sizing with medium grades of animal glue added generally from 1000 to 1500 more double folds to the tests of the waterleaf papers. These folding endurance tests were made at 65 per cent relative humidity. The results in general of the study of the effect of surface sizing made in the course of this work indicate that with any given paper (1) the bursting strength increases with increased retention of the glue, (2) the folding endurance increases with increasing glue content to a certain point and then decreases,

[3] Caroa Fiber as a Papermaking Material, Paper Trade Journal, Jan. 8, 1925.

[4] The Use of Glue in Coated Paper, G. K. Hamill, V. H. Gottschalk, and G. W. Bicking, Bureau of Standards Technologic Paper No. 323, Government Printing Office.

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(3) the resistance to water and to wet rubbing of glue sized papers may be markedly increased by treatment with glue hardening or tanning materials such as formaldehyde, but such treatment requires careful control lest the folding endurance be adversely affected, (4) the folding endurance of both unsized papers and surface-sized papers whether or not hardening agents have been used, may be increased by the addition of certain softening agents or lubricants, such as glycerine or non-drying oils, and (5) a limited number of tests check outside opinions that the effect of glycerine treatments, as ordinarily applied, on the folding endurance of paper is comparatively short lived. A report of this work has been published in a paper trade journal.

STRENGTH OF CRAFT WRAPPING PAPERS

The use of kraft wrapping papers is increasing rapidly because of their great strength and relatively long life as compared with many other types of wrapping papers. There is lack of adequate strength data for this type of paper, and as strength is one of its main requirements, such data is being secured to assist in formulating strength specifications. All four commonly applied strength tests—bursting, tearing, breaking, and folding—are being applied. Practically all representative domestic products have been tested, and samples of foreign papers secured through the foreign representatives of the Bureau of Foreign and Domestic Commerce are being tested as rapidly as the papers are received. The results so far obtained show, in general, little difference between foreign and domestic papers of the same grade. There is wide variation in strength, the weakest papers being around one-fifth as strong as the strongest. The bursting, folding, and tensile test results show fairly good agreement with each other as regards ranking the papers according to strength, but the tearing test shows no consistent agreement with any of the other tests applied.

III. GENERAL COOPERATIVE WORK ON PAPER STANDARDS

In addition to the above mentioned more extensive researches having for their object the development of paper standards, the bureau continued its cooperative work in this field, through service on advisory committees and by conducting researches of a minor nature in cooperation with various Government bodies, associations, and industrial concerns.

The bureau was represented on advisory committees of the Federal Specifications Board, the Government Printing Office, and the Post Office Department, all dealing with the formulation and revision of paper purchase specifications of the Federal Government. Such assistance was given to and in some cases some research conducted for other Government departments in respect to special papers used by them alone. This included development of specifications for telephone cable insulating paper, siphon recorder tape, and oiled perforated recorder tape for the War Department; wood manila label for the Post Office Department; and paper for repairing manuscripts, and for use in Braille manuscript, desired by the Library of Congress. A bureau paper technologist is a member of the advisory committee appointed by the Treasury Department to study redesign of United States paper currency in the direction of its simplification, increasing its security, and permitting increased economy in its production.

Assistance was given the Commonwealth of Pennsylvania in formulating its initial paper purchase specifications. The testing of several hundred papers was required as a part of this work.

A member of the bureau staff served on the Technical Association of the Pulp and Paper Industry, "Committee on Standard Testing Methods," which coordinates the work of the various standing committees of the association on development of its standards for testing. Similar service was given the committee of the American Society for Testing Materials dealing with specifications for insulating papers.

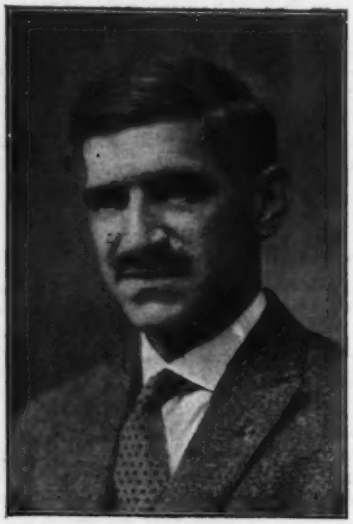
To Be Executive Engineer of American Writing

The American Writing Paper Company has added to its executive forces L. C. Reynolds, as executive engineer.

Mr. Reynolds' past experience eminently fits him for his new duties. After his graduation in a General Engineering Course at Union College, Schenectady, N. Y., he spent one year actively engaged in the shops of the General Electric Company. He later was connected with the New York Central Railroad in New York City in charge of track work of the Grand Central Terminal improvements and in connection with grade crossing elimination work.

For five years he was resident engineer for the General Electric Company at Schenectady, N. Y., and Erie, Pa., having charge of plant equipment and equipment engineering. During the six years following he was identified with the General Electric Company in Long Island City, a subsidiary of the General Electric, first in charge of plant extension, then assistant to the vice-president in charge of manufacturing and engineering. Later he was factory manager.

For the following two years he was associated with General Motors Corporation; one year at Saginaw, Mich., equipping and organizing a new motor plant, having charge of all manufacturing,



L. C. REYNOLDS

including purchasing, production, metallurgy, and engineering. He was also identified with the general office of General Motors in Detroit as consultant on Liberty engine manufacture, and for a few months was also in charge of their new motor plant at Pontiac, Mich.

As the result of sixteen years strenuous work he found is necessary to take a rest and practically retired for a period of three years, and then returned to active interest in engineering problems.

For the past four years he has been with the Elliott-Fisher Company at Harrisburg, Pa., manufacturers of bookkeeping machines, in the capacity of works manager, which carried with it corresponding responsibilities.

The past experience of Mr. Reynolds gives assurance of his value to the American Writing Paper Company as Executive Engineer, and especially at this time when rehabilitation of the plants is contemplated.

Mr. Reynolds expects to bring his family, consisting of his wife and two children, to Holyoke within a short time.

Longview Fiber Co. Orders Board Machine

PORTLAND, Ore., December 2, 1926.—L. C. Peabody, office manager of the Longview Fiber Company, Longview, Wash., states that a machine to manufacture board has been ordered from the Black-Clawson Company, as part of the equipment for the $2,500,000 plant. This machine will trim 133 inches in width and is expected to produce 100 tons of sulphate liner per day. Delivery of the new machine is expected within six months.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Industry

Clarence J. West, Chairman

Black Liquors and Alkaline Process Byproducts

Recovering Calcium Carbonate from Black Liquors. G. A. Richter and S. L. Swasey assignors to Brown Co. U. S. pat. 1,587,679, June 8, 1926.—The solution of smelted sodium compounds recovered from the black liquor is treated with lime, insufficient to causticize the entire solution, the precipitate is removed, the remaining solution is further causticized with lime, and the precipitate is recovered.—A.P.-C.

Rosin Oil Soap as a By Product from Sulphate Pulp Manufacture. Paper Trade J. 83, No. 2, 60 (July 8, 1926).—Continuous distillation of liquid rosin obtained as a by-product in the sulphate process gives a clear distillate containing about 4% of unsaponifiable matter. Owing to the high content of unsaturated acids the original oil is not suitable for making hard soap, but is suitable for making a "green soft soap." An easily soluble hard soap can be made from the distillate, while the residual pitch from the distillation is used for making marine pitch and carbon black. The yield of pine oil (tallol) soap containing 65% fatty and resin acids is 25 to 39 k. per metric ton of pulp (from pine) and the yield of pitch is 9 to 12 k.—A.P.-C.

Fatty Acids in Pine Oil Obtained as a By Product in the Manufacture of Sulphate Pulp. Torsten Hasselstroem. Papers-Och Travarutidskrift for Finland No. 25, 632-638 (1925); Paper Trade J. 83, No. 2, 60-64 (July 8, 1926).—Investigation of the fatty acids in refined pine oil obtained as a by-product in sulphate U. S. Pat. 1,581,511, April 20, 1926.—The gases are passed through a heat exchanger to heat up the fresh sulphite liquor, which is forced through the exchanger under pressure and then charged directly into the digester. The whole system containing the cooking liquor, whether heated or not, is completely enclosed, thus retaining a certain pressure therein for avoiding any loss of sulphur dioxide and any harmful change of the liquor by heating it.—A.P.-C.

Gas and Heat Recovery from Sulphite Digester Blow Off Exhaust Vapors. L. B. Decker. U. S. pat. 1,576,543, March 16, 1926.—The vapors from the blow pit are led into the bottom of the chip bin.—A.P.-C.

Effect of Catalysts in the Manufacture of Sulphite Pulp. L. F. Goodwin and W. H. Birchard. Paper Ind. 8,617-620 (July 1926).—A lead-lined gas heated, revolving autoclave was developed for cooking sulphite pulp, and a series of cooks were run under standard conditions, using chemicals which it was thought to have a positive catalytic effect on the sulphonation or hydrolysis of the lignin and a possible negative catalytic effect on the destruction of cellulose. Phenol retarded the penetration of the chips by the liquor and the action of the acid of the chips. Phenolsulphonic acid gave similar results, except that the stock was not so pink, indicating that some phenol had been deposited on the fibers in the phenol cooks. Addition of calcium chloride and of ammonium chloride slowed the cooks, calcium chloride increasing and ammonium chloride reducing the strength of the stock. Addition of methyl ethyl ketone and of acetic acid resulted in incomplete disintegration of the wood owing to reaction of the added chemical with the cooking acid.—A.P.-C.

Manufacture of Pulp from Resinous Woods. V. Drewsen Wood chips are heated for from 6 to 10 hours under pressure with assignor to West Virginia Pulp and Paper Co. Can. pat. 252,218.—a liquor containing 45 to 55% (calculated on the weight of wood) of sodium sulphite, then steam is blown through the product, essential oils being recovered from the condensed vapors and wood pulp afterwards separated from the residual liquor.

Manufacture of Fibrous Material From Straw. V. Drewsen assignor to West Virginia Pulp and Paper Co. Can. pat. 252,217.—Straw is digested for from 5 to 7 hr. at 170° to 180° C. with an aqueous solution of sodium sulphite, until disintegration is complete.—A.P.-C.

Bamboos from Malaya for Paper Making. Anon. Bull. Imp. Inst. 24, 219-221 (Aug. 1926). Samples of "Buloh Plang" (probably *Gigantachloa wrayi*, Gamble) and of "Buloh Kosap" (Ochlandra ridleyi, Gamble) had: moisture 11.1, 9.8, ash 3.5, 4.2 and cellulose (on dry basis) 56.25, 55.1%; ultimate fiber length, maximum 3.6, 4.2, minimum 1.4, 1.0, overage 2.4, 2.3 mm., respectively. On cooking 7 hr. at 160°C. with 20 parts of caustic soda at a concentration of 4%, the two samples gave 41% and 39% of well reduced, unbleached pulp, with consumption of 11.5 and 11.9% alkali, on the weight of the stems used, and the corresponding yields of bleached pulp were 36% and 35%. The pulp from Buloh Plang furnished a strong, light brown paper; it bleached fairly readily to a pale cream color and the bleached pulp yielded an opaque paper of good strength and quality. Buloh Kasap pulp furnished a strong, rather paler paper; it bleached readily, yielding a white opaque paper of good strength and quality. Both materials are considered suitable for the commercial production of high quality pulp.—A.P.-C.

Papermaking Qualities of Water Hyacinth (Eichornia Crassipes). L. Vidal and M.Aribert. Agron. Coloniale 13, 252 (1925); Bull. Imp. Inst. 24, 267-268 (Aug. 1926). "Luc-Binh" leaves from Indo-China contained 5% moisture, 5% ash and 32% cellulose (on the dry basis). The pulp obtained by digestion with caustic soda solution is composed of fibers 2 to 3 mm. long and 0.012 to 0.030 mm. in diameter; the fibers appear under the microscope as flat, transparent ribbons with thin walls. Pulping with lime gave 35% of an unbleachable pulp which could be converted into brown wrapping paper of fair quality, but the yield is only about half that given by straw. Digestion with caustic soda gave 27% of pulp which could only be bleached with difficulty; and the paper obtained from this pulp is lacking in strength and of inferior quality.—A.P.-C.

Process for Deinking Waste Paper Stock. G. Hammond. Fr. Pat. 606,098, Nov. 13, 1925. Waste paper which has been printed with an ink containing a saponifiable vehicle is beaten at a temperature of 25 to 45° C. with 1.3 to 3.0% of caustic soda (on the weight of the dry paper) until completely defibered. It is then washed and beaten for 5 to 20 min. at 25 to 45° C. with 0.9 to 2.2% of sodium bisulphite, or until the fibers are properly bleached. The lower the consistency of the stock in the beater the quicker the action of the bisulphite.—A.P.-C.

Deinking Printed Paper. L. E. Granton. U. S. pat. 1,585,-092, May 18, 1926. After pulping in water containing alkali or alkali-reacting substances, printed paper is agitated with mineral substances having detergen properties, e.g. soapstone, talc, chnia clay, fullers earth, kieselguhr, or silica powder, which have been collaidalized by grinding and treating with casein, gelatin, glue, albumin, gum arabic, gum tragacanth, starch, dextrin or similarly acting substances.—A.P.-C.

Deinking and Washing Waste Paper Stock. J. J. O'Connor. Paper Mill 49, No. 40, 10, 12 (Oct. 2, 1926); Paper Trade J. 83, No. 20 (Nov. 11, 1926). Practical indications based on observations over the course of five years personal experience, with an

plant of the Mead Pulp & Paper Co. A 2,300 lb. batch of stock is agitated for 30 to 100 min. with a hot solution of 90 lb. of caustic soda in 3,500 gal. of water. It is then circulated for 20 to 40 min. in the defibering unit, consisting of a conical-shaped tank with a centrifugal pump connected to the apex, the discharge line from the pump being piped back into the lower section of the tank which gives a volcanic effect to the Stock when operating. Before screening, the hot stock (temperature 180°F.) is diluted with water to a consistency of 0.7%, for which purpose fresh water is preferable to clarified water. This effect is attributed to the lower — of the clarified water which reduces the — of the mixture and prevents as good a separation of the ink from the fibers.—A.P.-C.

Sulphite Process

Inventor of Sulphite Pulp. John Lund, Svensk Papperstid Paper Making 45, 313,314 (Aug. 1926).—Brief historical notes on the work carried out at Northfleet by Charles Daniel Ekman on the sulphite process.—A.P.-C.

Means for Producing Acid Liquor in Sulphite Pulping Processes. J. D. Jenssen assignor to G. D. Jenssen Co. U. S. pat. 1,571,271, Feb. 2, 1926. In order to eliminate the necessity for heating the water used in the acid towers during the winter months, the water from the weak tower is drawn from the burner-gas coolers, and the weak acid is delivered into a mixing chamber where it is mixed with a relatively small proportion of acid from the recovery tank. As the liquor relief is not put through a cooler, the acid of the recovery tank is warmed up and by mixing a certain amount with the weak acid the temperature of the latter is raised sufficiently to obtain a proper reaction between the acid and the limestone in the strong acid tower, thereby building up the "combined" of the acid to the desired point. In warm weather the mixing chamber can be cut out, and the relief liquor is put through a cooler.—A.P.-C.

Standard Sulphite Mill Solutions. M. W. Phelps. Paper Ind. 8, 623-624 (July 1926).—Description of methods for preparing and standardizing decinormal and n/16 sodium hydroxide, decinormal hydrochloric and sulphuric acids, decinormal and n/16 iodine, and decinormal sodium arsenite, silver nitrate, ammonium thiocyanate and potassium permangenate.—A.P.-C.

Comparison of Methods Used for Testing Sulphite Cooking Acid. W. H. Birchard, Paper Ind. 8, 793-796 (Aug. 1926).—From a discussion and comparison of the Winkler (titration with standard idone and with standard caustic soda solutions on separate portions of the sample), Hohn (successive titrations with standard iodine and with standard caustic soda solutions on sepsame portion of sample). Sander (tiration with standard caustic soda, followed by addition of saturated mercuric chloride and a second titration with caustic soda, using methyl orange as indicator for both titrations) and iodate (titration with standard iodine followed by addition of an excess of potassium iodaet solution and titration with standard sodium thio-sulphate: methods for determining total and combined sulphur dioxide, both in the fresh cooking liquor and in the liquor during the whole course of the digestion, the author concludes that the iodate method gives the most reliable results and is just as simple to carry out as any of the others.—A.P.-C.

Method of Controlling Sulphite Cooking. G. Sivola. U. S. Pat. 1,590,987, June 29, 1926.—A sample is removed from the digester during cooking and a given weight of the pulp is washed and treated with a suitable volume of a solution such as potassium permanganate and sulphuric acid and the time required for decolorization is noted and serves to indicate the state of delignification of the pulp.—A.P.-C.

Recovery of Heat from Sulphur or Pyrites Burner Gases. H. Clemm and A. Schneider assignors to Zellstoffabrik Waldhof. mills showed that it contains principally oleic acid, some palmitic acid, a little linolenic acid, a small amount of an unidentified unsaturated acid, traces of a solid acid (possibly identical with the high molecular lactone acid of Sandquist), and possibly also a small amount of linoleic acid. The technic and results are described in detail.—A.P.-C.

Early Manufacture of News Print from Wood Pulp. W. Knowlton. Paper Ind. 8, 967-968 (Sept., 1926).—Reminiscences of the early days of the manufacture of groundwood and chemical wood pulp in the United States.—A.P.-C.

Magazine Wood Pulp Grinder. P. C. Schaaning. U. S. pat. 1,577,762, March 23, 1926.—The side walls of the shaft serving as magazine are parallel to the logs and comprise beams which are adapted to be moved towards and away from the grindstone. The beams are also adapted to be pressed against the column of logs in a direction perpendicular to the feeding movement so as to obtain a firm grip of the column. The reciprocating beams may also be provided with members adapted to exert a pressure against the column of logs during the movement of the beams towards the grindstone and this pressure is automatically released during the backwards movement of the beams. Two or more sets of reciprocating beams may be provided, one set moving forward as the other set moves in the opposite direction. Each feeding beam may be made in one piece or composed of several pieces hinged together.—A.P.-C.

Process for the Extraction of Cellulose. E. R. Clark assignor to M. S. Erlanger U. S. pat. 1,587,631, June 8, 1926.—Water is circulated through a body of cellulose-containing material such as wood or flax straw and chlorine is supplied to the circulating water as the operation proceeds.—A.P.-C.

Preliminary Treatment of Wood Before Cooking. F. K. Fish, Jr., assignor to Wood Products & By Products Corporation. U. S. pat. 1,574,026, Feb. 23, 1926.—Before submitting wood to the usual digestion process the complex resins and gums are rendered more soluble by treatment with circulating, superheated water which contains the volatile constituents from the wood previously extracted in a similar process. The pressure is lowered periodically to facilitate extraction of volatile substances.—A.P.-C.

Low Temperature Explosion Process for the Production of Wood Pulp. W. H. Mason, U. S. pats. 1,578,609, March 30, 1926, and 1,586,159, May 25, 1926; Paper Trade J. 83, No. 8, 53-54 (Aug. 19, 1926). *No. 1,578,609*—According to the invention the wood is perfectly hogged or chipped into comparatively small pieces and is placed in a closed high pressure chamber where it is subjected to a gas pressure (steam, air, etc.) of at least 275 lb. per sq. in., and preferably of 400 to 1,000 lb. When pressures of 275 to 400 lb. are used with wood that is not readily disintegrated, it is preferable to effect the disintegration in stages; and this can also be done when higher pressures are used. After the pressure has been maintained for a sufficient time to permit the gasses under pressure to penetrate the wood and practically establish equilibrium between the pressure and temperature in the chamber and inside the wood substance, and to heat the moisture in the wood to a temperature which causes it to turn to steam on releasing the pressure, an outlet valve of comparatively small dimension as compared with the cross-section of the main chamber is opened. The pressure in the chamber causes the wood to be forcibly and progressively driven out through the valve opening, which preferably is somewhat smaller in at least one dimension than the largest dimension of the chips. The pieces of wood as they emerge are disrupted and disintegrated, and with the use of the pressure specified the disintegration is so complete that the material can be sent immediately to the beaters. According to *No. 1,586,159* steam, water or other moisture-supplying fluid is introduced into the gun to penetrate, moisten and heat the chips. The gun is then charged with compressed air so that high pressures can be secured without the accompanying high temperatures necessarily present with high-pressure steam, the introduction of the compressed air being preferably carried out in such a manner as to avoid undue cooling of the chips. In this way charring and discoloration are avoided, and the product obtained is suited for the production of high grade pulp suitable for the manufacture of good quality paper.—A.P.-C.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

Preparation and Administration of the Budget*

By H. S. Owen, Ritter Dental Manufacturing Co., Inc., Rochester, N. Y.

The three elements of cost are material, labor and overhead. Material costs are fixed by competition between the manufacturers of the materials; labor costs are standardized through the means of analysis and time-study; and while overhead represents the largest portion of the whole cost, very little has been done in the way of controlling and maintaining overhead at a fair ratio to the other elements.

Overhead is made up of so many indefinite elements that "a mark to be shot at" should be established if the best results are to be obtained. This suggests a budget for all such elements, and also makes possible the payment of an extra incentive for non-producers if expenses are kept below the predetermined standard. Hence, a double purpose is served; first, the largest portion of manufacturing expense will be definitely controlled; and, secondly, an extra wage incentive can be paid non-productive workers on a basis of accomplishment.

I am not personally in favor of paying non-productive workers, including foremen, on a basis of production, since it is only human nature for everyone to get all of the money he can. When such an incentive is paid, even the foremen will endeavor to get work through that may not be entirely up to standard, in order that extra moneys accrue to themselves.

On the other hand, if the foreman or other non-productive workers are penalized for repairs to work which is done incorrectly, for unnecessary expense through the waste of supplies, such as tools, scrap and employees spending a longer time on non-productive labor than they should, they immediately make it their responsibility to see that these items are held as low as is physically possible.

You can readily see the contrast between paying an incentive on production and paying an incentive on moneys saved through reduction of overhead. In the first case, you pay a bonus even though a reasonably large percentage of the work is not up to standard. In this eventuality it is reasonable to assume that overhead will be materially increased, since parts that are not correct may interfere to a large extent with the assembly of the parts, although no re-work may be necessary. On the other hand, is the bonus paid on the basis of good work turned out at the lowest possible overhead cost? Since our allowances are based on the amount of productive work produced, the more good production turned out, the larger will be the allowance in a given period of time.

The budget affords those in charge of the various departments a means of checking their expenses that is not present when no budget is used.

In the first place, the old method of "post mortem" reports loses its force. Under that method the elapsed time was so long between the time the expense was incurred and the issuing of the report that the details of any one or all of the numerous expenses which made up the monthly report were forgotten long before the report was received. Then too, while the foreman was spending his time analyzing the report, additional unnecessary expense was, no doubt, piling up to which the foreman should have been giving his attention, instead of spending it explaining why the last month's expenses were so much higher than they apparently should have been. After all, how is the foreman to know whether or not he is spending too much money when he does not know what his allowances actually are until thirty days later?

I am sure that our plant is no different from any other, and while we try to maintain a normal schedule over a period of time, holidays and absentees make it necessary to alter conditions almost constantly if the schedule is to be met. Therefore the allowance that will apply one day in a month will not necessarily apply to the same day in the succeeding month. On the contrary, the *budget* not only shows immediately what has been spent, but what is allowed for each succeeding day in advance, so that every charge, whether it be nonproductive labor, supplies, or scrap, incurred during the day, can be checked very carefully, so that the allowance for the day will not be overrun.

A great deal of preparation—to be undertaken by the industrial engineering department—is necessary to inaugurate a budget system, and as yet we have found no better way than to use past performance as a basis for establishing allowances for the various elements of the budget. The entire overhead expense must be analyzed and broken down into certain definite divisions, so that a repetition of any charge can be properly allocated to the account covering that particular division of the overhead.

Fixed charges, such as insurance, depreciation, and interest on investment should not be included in the budget, since the foremen or heads of departments have no control over those items.

Some of the divisions of overhead over which department heads have control are the following:

1—Supervision
2—Time keeping,
3—Factory supplies,
4—Repairs to production due to the following causes:
A—Defective material
B—Broken tools
C—Defective workmanship
D—Maintenance of shop equipment
E—Maintenance of pulleys, shaftings and hangers,
F—Maintenance of dies, and jigs.

After the cost accountant has analyzed the total manufacturing expense and subdivided it into a sufficient number of accounts to

* From N. A. C. A. Bulletin.

cover all conditions, he should arrive at an average expenditure for a given rate of production for each element, the sum of all the divisions to equal the total manufacturing expense.

Each account should be thoroughly defined and a copy of this definition furnished to each and every department, so that all charges can be easily and properly allocated. It should be borne in mind, that these accounts should be as definite as possible, to facilitate analysis. By this I mean, that you should not try to get along with a very few accounts, but rather, that a large number of accounts should be set up, each one to cover a definite, repetitive charge.

If a flat departmental overhead is used these accounts will serve as an excellent basis for arriving at the departmental rate, as well as the basis for the budget allowances.

After these accounts have been in operation for a number of months, some very interesting records will be built up, from which standards for each account can be set up. These standards should be set up on a monthly basis and for each account making up the total manufacturing expense. From these records can be determined the proportion of money represented by each account that each department is entitled to and the sum of all allotments to any one department will be that department's total allowance for the month. For the budget system to be effective, each department head should know at least forty-eight hours after the expense has been incurred how he stands. Accordingly this monthly allowance should be broken down into daily allowances for each working day in the month. The number of working days varies in different months and, consequently, the daily allowances will vary slightly.

A schedule should be laid out giving the time of day that all tickets should be in the cost department, the time that all tickets should be priced, and the time that the totals for each department should be ready for typing on the daily report and, lastly, the time the report should be typed and distributed.

Our schedule for these different steps is as follows:

11:30 of the following day, all tickets must be in cost department.

3:00 o'clock, tickets priced.

10:00 o'clock of the second day, all figures are ready for typing.

11:45 reports are typed and distributed.

If a schedule is not followed, delays will creep in that destroy the purpose of the report and the report then becomes past history. If such a schedule is followed, price records must be up-to-date in all cases and symbols should be set up for each kind of supply used, and the prices of supplies should be filed under the symbol number in numerical order to facilitate the pricing of the day's supply requisitions.

We do not keep an individual record of material in the cost department, but rather, our entire inventory is divided into three parts; raw material, supplies, and work in process. The supply inventory is divided up into production supplies, tool supplies and miscellaneous supplies. Therefore, all supplies purchased are charged to the inventory account and withdrawals are credited to it. The individual ledger account of these items is carried in the production planning office. As a new shipment of supplies is received, the price in the invoice is recorded on the price record, this being kept in numerical order by symbol. In pricing out supplies requisitioned from stores, the last price is always used. Supplies lose their identity in the cost department records and the price of any supply can be ascertained by referring to the symbol of same. Keeping this price list up-to-date at all times makes possible extremely rapid pricing of supply requisitions.

The requisition, when received in the cost department, must be properly made out, bearing the symbol, the account number, the department number, and the quantity requisitioned. These requisitions are made out by the department requisitioning them, and all information is included by them with the exception of the symbol.

The ledger account in the stock room is kept by description and the supply is requisitioned accordingly, and the symbol appears on this stock ledger sheet. The symbol is affixed by the stock clerk when posting the requisition on the stock ledger. Accordingly, it is not necessary that every department have a record of the symbols; for it can order by description only. In all cases, the one requisitioning the supply should include the account number, because he alone knows what the supply is to be used for.

When these supply requisitions are received in the cost department, they are priced out with the aid of the supply cost record and are totaled by department, showing how much money each department has spent for supplies for the day. This figure is posted on the daily report as against the allowance for the day, and all money spent for supplies previous to this date, in the given month is added to the daily amount and is posted on the daily report as against the allowance to date. Hence, a status to date, as well as the daily status can be seen at a glance, for each and every department in the plant, as well as for the factory as a whole.

All scrap charges originate with the inspectors in the inspection department, for it is they who decide that the part must be scrapped, as well as the cause for scrapping. Therefore, the inspector in making out the scrap ticket must be sure that there appears on the scrap ticket the proper account number which designated the reason for scrapping, the department number in which the parts were spoiled, the last operation completed, and the number of pieces scrapped. This information is necessary, because we operate on a standard operation cost basis and each and every part has a definite value after each operation has been performed.

An operation cost record is maintained in the cost department showing the standard material cost, the standard labor cost, and the standard overhead cost for each and every operation, as well as the total cost of the piece. These standards are set up once every year and any variations from standard are thrown directly into Profit and Loss instead of altering these operations or piece part standards.

For a recent year our variations at the end of the year were less than one-fourth of one percent, and for that reason the standards of that year were continued throughout the following year. It will be necessary, however, to alter these standards for the current year, since reductions in both productive labor and overhead have been effected, and our standards are now slightly higher than they should be.

After the scrap ticket is made out in the inspection department it goes to the production planning department and is recorded on the process ledger sheet and from there it goes to the cost department, where the ticket is priced and accumulated against the department at fault.

After all scrap tickets are priced out and accumulated by department, the daily and the to-date expenses are recorded on the daily report in the same manner as the supply charges, thereby showing each department at a glance the amount of money spent daily against their daily allowance, and the accumulation to date as against their accumulated allowance.

Non-productive labor charges are slightly different, in that all departments have a certain amount of fixed non-productive expense, such as supervision, trucking and clerks. These fixed expenses are only affected when extreme reductions or increases in schedule occur. All other non-productive labor charges originate in the inspection department, where parts are found to be defective due to any one of many causes, some of which are poor workmanship, defective material, error in reading blue-print, etc. It is therefore, the inspection department's duty to see that the proper account number is used in repairing these parts, as well as the department at fault, and if it is the operator's fault they must specify that this repair must be performed by the operator on his own time.

After the parts have been inspected and it is found that addi-

tional work is required to put them in good condition, they advise the production control station, which makes out the assignment according to the information turned in, and the work is forwarded to the department in which the repair is to be made.

The work is assigned to an operator to make the repair and the actual time taken is recorded on the time ticket and returned to the production-control-station, together with the corrected work. The work is again inspected and if found to be O.K. is passed on to the next operation or to stock if all operations have been completed. The time ticket is then forwarded to the cost department, where the number of hours taken is accumulated by departments on a separate sheet. After all non-productive tickets for the day have been accumulated on this sheet, the number of hours chargeable to each department is extended at the departmental average hourly rate, for the purpose of expediting the budget report. This average hourly rate varies slightly from the actual payroll money, but is within possibly one or two percent of the correct amount and serves the purpose very well.

After the budget workers have finished with the time ticket it is then forwarded to the payroll department, where the non-productive time is extended at the actual operator's rate and this money is accumulated for the month; so that the distribution of overhead will be based upon actual expenditures instead of average departmental rates. The difference between the actual money paid the operators for non-productive labor and the figures as shown on the final daily report for the month, is adjusted and a monthly report is made out from the corrected figures. The non-productive labor is shown on the daily labor report—first, the daily expense against the daily allowance, and the accumulated expense for the month to date as against the accumulated allowance for the month to date.

After the supply requisitions have been priced and accumulated for all departments, the scrap tickets priced and accumulated by department, and the non-productive labor hours accumulated and extended by the average departmental rates, the figures are ready to be typed on the daily report. This report presents a true picture at a glance of which departments have lost for the day, whether they have lost on labor, supplies, or scrap, and enables analysis of those irregularities which appear, without the necessity of analyzing all figures for all departments in order to find the excessive charges.

Having this report within forty-eight hours after the expense is incurred, enables us to devise ways and means of eliminating a re-occurrence of excessive charges; and if any charges are justifiable, but still cause a loss, we know immediately what that loss is and can judge from the facts at hand whether or not our allowances are sufficient to cover all conditions.

A master copy of this report is posted in the office and the totals for each department are forwarded daily to each foreman or department head. The foreman show a great deal of interest in these figures, and in most cases find a way—without any help—to plug the leaks; but in the event that there is anything beyond their control, they immediately get in touch with the office to see what can be done to correct the condition.

Sharing in the savings as they do, they have the double incentive of wanting to do their job well and to build up as big a bonus for themselves as they can. The latter is somewhat of a selfish motive, but still it gets results—and that is exactly what we are after.

In establishing these daily allowances, a definite schedule must be laid out as a basis to work from and a given amount of money for each of the elements of overhead must be allowed for each hour of productive labor produced. Therefore, if at the end of the month, a department has not produced as many productive hours as its schedule calls for, its allowance is reduced accordingly. On the contrary, if it has produced more productive hours than the schedule called for, its allowance is relatively increased.

For this reason, the monthly report, which is a summary of the daily reports adjusted to the actual conditions, may not be entirely in accordance with the last daily report for the month. It is this monthly report, however, on which the bonus is actually based. Here again the budget serves a purpose that was not taken into consideration when it was inaugurated, and that is just this: a foreman knowing that his allowance will be cut down if he does not produce his schedule, interests himself in the number of hours actually being produced, as well as the number of hours he should produce. He is held in check, however, from producing more hours than he should by only being allowed the proper number of men to produce the required hours.

Absentees affect his allowance, and he, therefore, is endeavoring at all times to weed out employees who are irregular, tardy, etc. He is penalized for poor work; consequently, he is anxious to have the best class of workers he can possibly secure. He is penalized for machine repairs and he, therefore, makes it his duty to see that his machines are kept in as good condition as possible, so that his machine repairs will be held to a minimum.

Generally speaking, the budget creates an interest in many things which many foremen are liable to neglect where no incentive exists other than the holding of their jobs. The foreman is given tools to work with and, consequently is able to control his divisions more efficiently than would be the case if these figures were not in his possession. He knows what is expected of him and how near he is shooting at the mark.

In closing, let me quote a few figures to show what the budget it doing for us:

In 1923, the saving for the entire year amounted to 5.86 per cent of the total manufacturing expense for the year.

In 1924, the saving for the year amounted to 10.51 per cent of the total manufacturing expense for the year.

At the end of the first quarter, or March 31, 1924, a saving of 4.2 per cent of the manufacturing expense for the period had been made.

At the end of the first quarter, or March 31, 1925, a saving of 10.92 per cent of the total manufacturing expense for the period had been saved.

At the end of August, 1925, considerably over 13 per cent of the total manufacturing expense for the year to date had been saved, and we are still forging ahead in the right direction. Since this trend is still downward, it is too early to predict how far we will go below the basis of 1923, but you can rest assured that efforts are not slowing up and we shall continue until we get it down to "rock bottom."

Oxford Increases Research Staff

The research department of Oxford Paper Company has recently added two men to its staff, W. R. Willets and K. W. Fries.

Mr. Willets recently completed the course in pulp and paper manufacture at the University of Syracuse, and will devote his attention to the physical and chemical aspects of silvicultural studies.

Mr. Fries received the degree of Diploma Engineer in Paper Making, July, 1925, from University of Darmstadt. He will act as assistant in work on the sulphite process.

May Build Pulp Mill in Alaska

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., December 2, 1926.—I. and J. D. Zellerbach of San Francisco have applied to the federal power commission for a preliminary permit for water power projects on eight creeks and lakes on Revillagigedo island and on Punch Bowl creek and lake, all in Alaska. The project is to develop power to operate a pulp and paper mill, probably near the head of Thorne arm.

One unit on Beaver Falls creek and Silver lake conflicts with a license already issued and could not be considered as part of the application.

Corporate Publicity and the Auditor*

By George O. May

My presence here tonight is a direct result of the publication by Professor Ripley of his article in the September Atlantic Monthly, on the subject of publicity of corporation accounts.

Soon after that article appeared I wrote to a leading New York newspaper, drawing attention to certain inaccuracies in it and suggesting that it did not constitute an altogether fair presentation of the situation which exists today. Your committee then invited me to speak at this meeting, and as the regular business program was filled they suggested that I might take this occasion to make a few remarks on the subject of publicity of accounts from the standpoint of directors and auditors.

I do not propose to discuss Professor Ripley's article in detail. I dissent from him on some of his facts and on some of his arguments, and I entirely disagree with his suggestion as to the role which should be played by the federal trade commission. But I do not wish to night to discuss these disagreements; I would rather express my gratification at the success with which he has attracted the attention of the public to the subject, and consider what we, as accountants, can do to bring about that improvement in the information furnished to stockholders and potential stockholders of corporations for which his article is a plea. No doubt the primary responsibility for furnishing the stockholders adequate information rests on the directors, but the auditor ought to use his best efforts to ensure that the directors publish accounts which conform to the highest established standards and to be able to advise directors what these standards are.

I am not sure that auditors have done their full duty in this respect in the past. To some extent this may have been due to the limitations of their authority and the rather precarious tenure of their appointments. I think the time has come when auditors should assume larger responsibilities, and their position be more clearly defined.

The practice of having independent audits has become so general that it is no longer necessary to demonstrate its value. In discussing the subject, therefore, we are now free from any imputation that we are crying up our own wares.

After undertaking to speak tonight I caused an examination to be made to ascertain what percentage of the companies whose stocks were dealt in on a given day on the New York Stock Exchange had their accounts audited annually, and I was myself surprised to find that in the case of industrial companies the practice had become almost universal; certainly over 90 per cent of all the industrial companies on the list were audited.

In these circumstances it seems to me that the extension of the independent audit, accompanied by a clearer definition of the authority and responsibility of the auditors, is one of the most valuable remedies to be found for the defects of which Professor Ripley complains; and I think the Institute should consider very seriously, and invite the cooperation of other bodies in considering what are the proper responsibilities of auditors and what can be done to hold them to such responsibilities and to put them in a position to assume all the responsibilities which they ought to assume.

In England, to which country Professor Ripley pointed, the situation is now fairly clearly defined by statute. I recognize, of course, that owing to the fact that incorporation is a state question it is not readily possible here to define audit standards by legislation, but a reference to the English statutes may at least be helpful as suggesting the objectives at which we ought to aim.

Under the English law the independent audit has for many years been compulsory, and the auditors share with the directors the responsibility for the accounts as published.

Auditors have been held liable for damages, and have even been subjected to criminal prosecution, for participation in the issue of false accounts. As a necessary corollary they have been given adequate powers. The language of the English companies' act is simple:

"Every auditor of a company shall have a right of access at all times to the books and accounts and vouchers of the company, and shall be entitled to require from the directors and officers of the company such information and explanation as may be necessary for the performance of the duties of the auditors."

The following clause provides that the auditors shall make a report to the shareholders on every balance-sheet laid before a shareholders' meeting during their term of office and shall state whether or not they have obtained all the information and explanations they have required and whether the balance-sheet is properly drawn up so as to exhibit a true and correct view of the state of the company's affairs. It is made a misdemeanor to circulate a balance-sheet which has not been audited or which does not bear a copy of the auditor's report or a sufficient reference thereto.

Finally, the position of the auditor is strengthened by a provision that no auditor other than the retiring auditor shall be eligible for election at an annual meeting of shareholders unless due notice has been given in advance of the intention to nominate a new auditor, and this notice must be given to every shareholder and also to the retiring auditor. If, therefore, directors are disposed to seek new auditors because of differences of opinion with the existing auditors, ample opportunity is afforded for the shareholders to become informed of the merits of the case and act accordingly.

A government committee which recently reviewed the English company law in the light of developments during the last twenty years felt able to report:

"We are of the opinion that in general the law as it stands with regard to the powers and duties of auditors is satisfactory."

And also:

"Cases in which auditors fall below the level of their duty are few and far between."

Now, while it is doubtless impracticable to bring about through legislation in this country a development similar to that which has proved so satisfactory in England, I see no reason why this should not be done in a large measure through the cooperation of such bodies as the leading stock exchanges, the investment bankers and the commercial banks which grant credit, and I suggest that the Institute should endeavor to bring about cooperation to this end. Every member of the Institute, I believe, appreciates the value to its membership, to the banks and to the business of the country, of the cooperation with bankers in regard to credit statements which has been developed in recent years. I think the Institute should seek to extend such cooperation to the field with which Professor Ripley's article deals. The New York Stock Exchange, for instance, could readily bring about through its listing agreements a situation as respects companies listed on its exchange similar to that which exists in England. In recent years the stock exchange has given various indications that it attaches constantly greater importance to the work of accountants and it has also shown a disposition to examine sympathetically any proposal which may tend to protect those who deal in the securities which it lists. It would, I think, therefore be receptive to a suggestion such as I have put forward.

As I have said, the accounts of a very large proportion of the industrial companies whose stocks are listed (and I limit for the present the suggestion to industrial companies and exclude railways, public utilities and other companies which are under some

* Journal of Accountancy.

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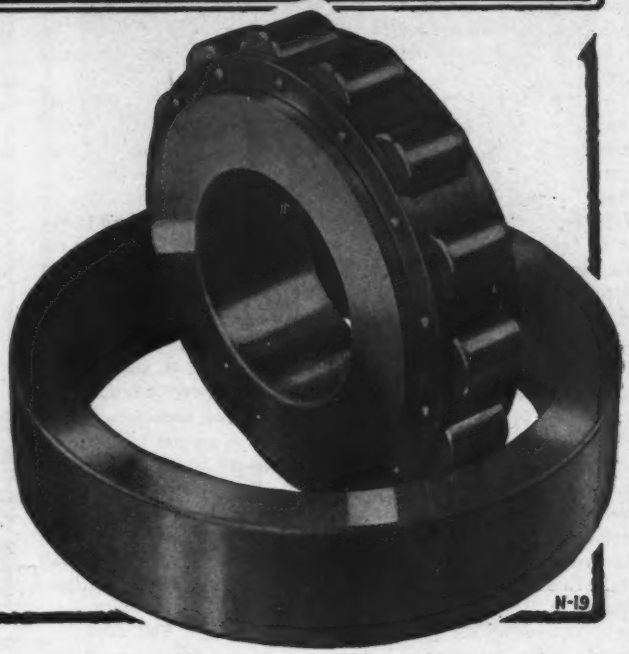

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form of public supervision) are now audited; the public would welcome a clearer definition of the significance of such audits and of the responsibilities of auditors. Such clearer definition, though it might increase the accountant's obligation, would also in the long run be of advantage to the members of the profession and give them enhanced importance in the business world, just as it has done in England.

By similar cooperation, standards might be established for balance-sheets and income accounts which would be welcomed by many corporation executives and accountants who desire to be guided by the best practice, if they can be assured what that practice is.

As regards balance-sheets, the essential points are fairly well established and observed by the leading companies. A clear statement of the way in which the capital assets are valued is one requirement of an adequate disclosure which is not now generally observed, and there might be some discussion as to the form of statement of surplus. The object should be so to state the surplus as to indicate what part of it is legally available for dividend distributions and what part is not so available; but in the present state of the law, particularly in the case of companies with stock of no par value, this is not always easy, and it is impossible to lay down hard and fast rules.

The practice in regard to the income account is not so well established, and there is probably room for more difference of opinion as to what would constitute a proper disclosure. The difficulties arise largely from two facts which are not at all times adequately appreciated. The first is, that the significance of an income account is two-fold; it shows what amounts have been earned and are available for distribution in dividends if the directors see fit to make the distribution. The income account of the past is also in a measure a guide to the expectations of income in the future. In many cases this second use is the more important because it is the reasonable expectation of yield in the future which determines the value of any property today. This economic truism, which incidentally makes much of the discussion of the values of capital assets from the standpoint of reproduction cost irrelevant and meaningless, should never be lost sight of or obscured.

The second difficulty is that the attribution of income to particular periods of time is at best in a large measure arbitrary and based on conventions. While we accountants recognize this fact more fully the longer we practice, it is by no means properly appreciated by the general public, and far too much significance is commonly attached to the figure of income for a particular year or other period.

Bearing in mind these two points, it seems to me that fairness in the presentation of an income account is even more important than fulness. Much of the information that is contained in more elaborate reports is no doubt interesting to stockholders and appeals to their sense of proprietorship, but is of little practical value to them. The vitally important requirements are that, if the profits of the year include extraordinary or extraneous profits which render the figures useless as a guide to earning capacity, these should be clearly disclosed; and, second, that where the accounts are based on any conventions other than those commonly accepted, that fact should also be clearly disclosed. I have in mind such departures from accepted convention as the valuing of inventories on a basis other than cost or market, or the failure to provide for depreciation or depletion.

Undoubtedly there would be differences of opinion on the question whether gross sales should be disclosed. Viewing the matter solely from the standpoint of the stockholder, it seems to me this is a question of expediency. Where the percentage of gross profit is high, the profit is apt to be regarded as unreasonable, although in judging its reasonableness many factors besides the percentage it bears to sales ought really to be taken into account. A packing company which can earn a fair return on its investment with a relatively small percentage of profit on a large turnover can very well afford to publish its sales and to point to the small percentage of profits with an expression of surprise at its own moderation. On the other hand, an agricultural-implement company with a large investment and a relatively small turnover might be merely inviting ill-informed criticism by a similar disclosure.

Undoubtedly many of the objections to fuller disclosure are based on unsubstantial grounds and would be cleared up by frank discussion. Many corporations, as Professor Ripley points out, disclose in their listing applications information which they do not give in their reports to their stockholders.

I have been able to touch only briefly tonight on some of the important phases of the question of publicity of corporation accounts; my main purpose is to urge that co-operation between interested bodies should do much to improve the existing situation and that the American Institute of Accountants might well take the initative in an effort to bring about such co-operation. I think the Institute has reason to be proud of its accomplishments in the single decade of its existence, but I believe that there is here a field in which the Institute could do still greater service and in doing so could help its members to render a higher service to the community.

Pacific Coast Paper Trade Expanding

[FROM OUR REGULAR CORRESPONDENT]

LOS ANGELES, Cal., November 28, 1926.—Victor E. Hecht, assistant manager of the Zellerbach Paper Company, says the side walls of the company's new factory at Southgate are now going up and the structure will be pushed to completion as rapidly as possible. It may be delayed for a little time in as much as the annual rainy season has begun and this necessarily will delay construction work somewhat.

Operations at the California Fruit Wrapping Mills at Pomona began on Thursday, November 18. The initial output schedule of the plant, according to Eric Fernstrom, vice president of the company, calls for an annual production of approximately 300 tons of paper for the fruit industry. This entire output has already been absorbed by local fruit exchanges and already the company is planning to double the capacity of the plant before another year rolls around.

The process of manufacturing and printing the fruit wrappers is practically continuous from the shredding of the pulp to the delivery of the printed wrapper from the cutting machines. The pulp is being imported from Sweden in a dry form and the plant is completely equipped with modern machinery to convert the pulp from the condition in which it is received into the finished wrapper.

The company is capitalized at $500,000 and its officials include: F. O. Fernstrom, president; Eric Fernstrom, vice-president, and F. G. Fernstrom, secretary and treasurer. The Fernstroms come from Sweden, where they are reported to be interested in paper mills of that country.

A Los Angeles paper jobber, who does not want his name quoted in this connection, told your representative this morning that the east soon would feel the competition of the Pacific Coast paper mills, if, indeed, it had not done so already. He said that mills now producing in the northwest, using hydro-electric power and with pulp right at their doors, were enabled to make paper and to ship it to the eastern sea board, especially in foreign bottoms, and deliver it anywhere along the Atlantic Coast at prices below the cost of producing paper of equal grades on eastern or mid-western mills. Furthermore, he said that several mills are now under construction which will enormously increase the Pacific Coast production of paper and that in as much as the demand in this section of the country, supplemented by the demand from the Orient, could not absorb nearly all of this potential production, the only recourse these northwestern mills would have would be to seek an outlet in the east. He asserted that the time would soon be here when what dumping was done in the paper trades would be by the west in the east instead of by the east in the west, as had been the custom during the past.

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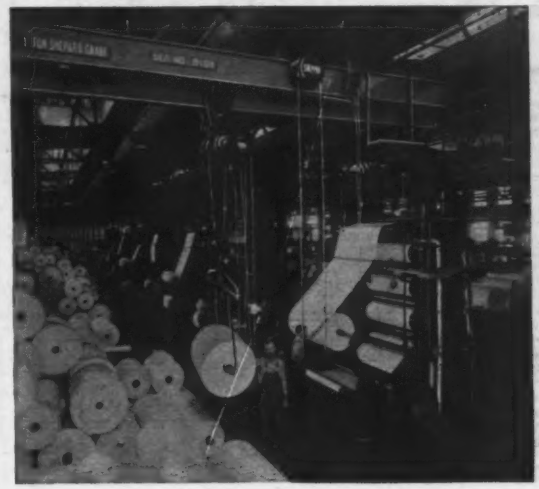

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Wall board .....25 cs.
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Printing paper .....325 cs.
Packing paper .....15 cs.
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Wrapping paper .....83 bls., 237 rolls, 20 cs.
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Tissue paper .....48 cs.
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Filter masse .....60 bls.
Pergamyn paper .....2 cs.
Pergamyn envelopes .....2 cs.
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Decalcomania paper .....48 cs.
Flint paper .....49 bls.
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Metal coated paper .....18 cs.
Gold coated paper .....8 cs.
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Half Moon Manfg. & Trading Co., Breedyk, Rotterdam, 16 rolls.

A. Vuyk, Breedyk, Rotterdam, 585 rolls.

MISCELLANEOUS PAPER

L. Bamberger & Co., Stockholm, Gothenburg, 80 bls., 320 rolls.

Arkell Safety Bag Co., Stockholm, Gothenburg, 85 rolls.

The Borregaard Co., Inc., Stockholm, Gothenburg, 370 bls.

Hilbert Paper Co., Stockholm, Gothenburg, 134 bls., 35 rolls.

Wilkinson Bros. & Co., Inc., Stockholm, Gothenburg, 13 cs.

C. Steiner, Stockholm, Gothenburg, 7 bls.

W. Hartman & Co., A. Ballin, Hamburg, 179 bls.

Hensel, Bruckman & Lorbacher, Paris, Havre, 42 cs.

B. D'Uge, Cherca, Genoa, 6 bls.

Perry, Ryer & Co., Cameronia, Glasgow, 252 cs.

S. Gilbert, Breedyk, Rotterdam, 9 cs.

RAGS, BAGGINGS, ETC.

W. Schall & Co., Pr. Roosevelt, Bremen, 52 bls. rags.

Castle & Overton, Inc., Pr. Roosevelt, Bremen, 31 bls. thread waste.

E. J. Keller Co., Inc., Pr. Roosevelt, Bremen, 2 bls. rags.

A. H. Searle, V. Emmanuele III, Cardiff, 223 bls. rags.

A. H. Searle, V. Emmanuele III, Cardiff, 29 bls. bagging.

C. K. Spence, V. Emmanuele III, Dublin, 76 bls. paper stock.

G. M. Graves Co., Cameronia, Glasgow, 70 bls. bagging.

Royal Manfg. Co., Corson, Genoa, 23 bls. cotton waste.

National Bank of Commerce, Corson, Leghorn, 278 bls. rags.

Bank of America, Corson, Leghorn, 58 bls. rags.

Salomon Bros. & Co., Pipestone County, Havre, 86 bls. rags.

V. Galaup, Pipestone County, Havre, 151 bls. rags.

S. Birkenstein & Sons, Pipestone County, Havre, 145 bls. rags.

American Rag Trading Co., Pipestone County, Havre, 11 bls. rags.

E. J. Keller Co., Inc., A. Ballin, Hamburg, 47 bls. rags.

American Woolstock Corp., A. Ballin, Hamburg, 37 bls. rags.

American Exchange Pacific National Bank, A. Ballin, Hamburg, 41 bls. rags.

Castle & Overton, Inc., Breedyk, Rotterdam, 62 bls. bagging.

E. J. Keller Co., Inc., Breedyk, Rotterdam, 58 bls. bagging.

Darmstadt, Scott & Courtney, Breedyk, Rotterdam, 59 bls. rags.

Robert Blank, Breedyk, Rotterdam, 208 bls. rags.

The Barrett Co., Breedyk, Rotterdam, 94 bls. rags.

P. Berlowitz, Breedyk, Rotterdam, 44 bls. rags.

Bulkley, Dunton & Co., Breedyk, Rotterdam, 390 bls. rags.

Equitable Trust Co., Delilian, Antwerp, 317 bls. flax waste.

Equitable Trust Co., Delilian, Antwerp, 90 bls. thread waste.

Royal Manfg. Co., Sacandaga, Antwerp, 32 bls. rags.

Maurice O'Meara Co., Sacandaga, Antwerp, 64 bls. flax waste.

The Stone Bros. Co., Inc., Sacandaga, Antwerp, 22 bls. rags.

P. Berlowitz, Sacandaga, Antwerp, 139 bls. rags.

E. J. Keller Co., Inc., Sacandaga, Antwerp, 15 bls. rags.

W. Schall & Co., Sacandaga, Antwerp, 183 bls. flax waste.

B. D. Kaplan, Sacandaga, Antwerp, 5 bls. rags.

Chase National Bank, Fred. VIII, Copenhagen, 388 bls. rags.

Atlas Waste Manfg. Co., McKeesport, Havre, 31 bls. rags.

Atterbury Bros., Inc., McKeesport, Havre, 32 bls. rags.

V. Galaup, McKeesport, Havre, 31 bls. rags.

J. Miller, Mckeesport, Havre, 40 bls. rags.

Bulkley, Dunton & Co., McKeesport, ——, 103 bls. bagging.

E. J. Keller Co., Inc., Muenchen, Bremen, 2 bls. rags.

E. J. Keller Co., Inc., Caucasier, Antwerp, 66 bls. rags.

B. D. Kaplan, Caucasier, Antwerp, 23 bls. rags.

Lloyd Royal Belge, Caucasier, Antwerp, 8 bls. rags.

Castle & Overton, Inc., Progress, Hamburg, 68 bls. rags.

E. J. Keller Co., Inc., Progress, Hamburg, 79 bls. rags.

E. J. Keller Co., Inc., Montauk, Kobe, 100 bls. bagging.

OLD ROPE

Brown Bros. & Co., Breedyk, Rotterdam, 128 coils.

Brown Bros. & Co., Pennland, Antwerp, 87 bls.

E. J. Keller Co., Inc., Breedyk, Rotterdam, 45 coils.

Brown Bros. & Co., Breedyk, Rotterdam, 23 bls.

MANILA NETS

E. J. Keller Co., Inc., Pr. Roosevelt, Bremen, 81 bls.

MANILA ROPE

Ellermans' Wilson Line, Minnetonka, London, 52 coils.

New York Cordage Co., Delilian, Antwerp, 40 coils.

Brown Bros. & Co., Delilian, Antwerp, 50 bls.

Brown Bros. & Co., Caucasier, Antwerp, 53 bls.

(Continued on page 60)

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All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

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Imports of Paper and Paper Stock

(*Continued from page 58*)

HEMP ROPE

United Fruit Co., Scythia, Liverpool, 27 pkgs.

SUNN ROPE

New York Cordage Co., Delilian, Antwerp, 34 coils.

De Grauw-Aymer Co., Pennland, Antwerp, 32 coils.

WOOD PULP

Castle & Overton, Inc., Pres. Roosevelt, Bremen, 1,324 bls. wood pulp, 188 tons.

Bulkley, Dunton & Co., Pres. Roosevelt, ——, 1,850 bls. wood pulp, 370 tons.

J. Anderson & Co., Svendborgsund, Hernosand, 2,400 bls. sulphite, 400 tons.

Pagel, Horton & Co., Inc., Svendborgsund, Hernosand, 3,000 bls. sulphite, 500 tons.

J. Anderson & Co., Svendborgsund Spraugsviken, 4,250 bls. sulphate, 850 tons.

J. Anderson & Co., Svendborgsund, Stugsund, 1,800 bls. sulphate, 360 tons.

Bulkley, Dunton & Co., Svendborgsund, ——, 2,300 bls. sulphate, 460 tons.

Bulkley, Dunton & Co., Svendborgsund, ——, 1,625 bls. sulphite, 325 tons.

Johanson, Wales & Sparre, Inc., Stockholm, Gothenburg, 233 bls. dry soda pulp.

E. M. Sergeant & Co., Stockholm, Gothenburg, 510 bls. sulphite pulp.

Price & Pierce, Ltd., Stockholm, Gothenburg, 1,500 bls. wet pulp.

Buck, Kiaer & Co., Inc., A. Ballin, Hamburg 700 bls. sulphite, 110 tons.

National City Bank, Fred. VIII, Oslo, 300 bls. wood pulp.

Perkins, Goodwin & Co., Fred. VIII, Oslo, 375 bls. wood pulp.

Buck, Kiaer & Co., Inc., Fred. VIII, Oslo, 200 bls. sulphite.

E. J. Keller Co., Inc., Progress, Hamburg, 873 bls. sulphite, 131 tons.

M. Gottesman & Co., Inc., Progress, Hamburg, 693 bls. sulphite, 107 tons.

WOOD PULP BOARDS

Lagerloef Trading Co., A. Ballin, Hamburg, 291 bls., 47 tons.

M. Meyerson, Stockholm, Gothenburg, 17 bls.

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 4, 1926

Central National Bank, Corson, Marseilles, 73 bls. rags.

D. I. Murphy, Corson, Leghorn, 385 bls. rags.

Strupp & Co., Corson, Palermo, 159 bls. rags.

Union National Bank, Corson, Naples, 190 bls. rags.

Castle & Overton, Inc., Sacandaga, Antwerp, 236 bls. rags.

Maurice O'Meara Co., Sacandaga, Antwerp, 65 bls. rags.

A. Hurst & Co., Sacandaga, Antwerp, 94 bls. rags.

F. Weber & Co., Sacandaga, Antwerp, 9 cs. paper.

D. I. Murphy, Sacandaga, Antwerp, 49 bls. thread waste.

Congoleum-Nairn Co., Sacandaga, Antwerp, 240 bls. rags.

E. J. Keller Co., Inc., Sacandaga, Antwerp, 850 bls. rags.

The Stone Bros. Co., Sacandaga, Antwerp, 240 bls. rags.

S. S. Alcorn, Sacandaga, Antwerp, 36 bls. packing paper.

Scandinavian Pulp Agency, Inc., Hjelmaren, Gothenburg, 762 bls. kraft pulp.

Johanson, Wales & Sparre, Inc., Hjelmaren, Gothenburg, 500 bls. sulphite pulp.

J. Anderson & Co., Hjelmaren, Gothenburg, 425 bls. sulphite.

D. L. Ward & Co., Hjelmaren, Gothenburg, 342 rolls paper.

The Borregaard Co., Inc., Hjelmaren, Gothenburg, 31 bls. paper.

Castle & Overton, Inc., Sunpath, Denmark, 212 bls. rags.

Castle & Overton, Inc., St. Louis, Belgium, 291 bls. rags.

Castle & Overton, Inc., J. Skinner, Germany, 31 bls. rags.

Castle & Overton, Inc., London Exchange, England, 53 bls. rags.

Castle & Overton, Inc., Bankdale, Spain, 201 bls. rags.

Castle & Overton, Inc., Capulin, England, 142 bls. rags.

Castle & Overton, Inc., Bellepline, Holland, 1,221 bls. wood pulp.

E. J. Keller Co., Inc., Marigot, Havre, 597 bls. rags.

E. J. Keller Co., Inc., Panaman, Kobe, 20 bls. rags.

BOSTON IMPORTS

WEEK ENDING DECEMBER 4, 1926

Brown Bros. & Co., Marengo, Hull, 162 coils old rope.

E. J. Keller Co., Inc., Pipestone County, Dunkirk, 44 bls. rags.

Forte, Moran & Co., Pipestone County, Dunkirk, 31 bls. rags.

Forte, Moran & Co., Pipestone County, Dunkirk, 62 bls. waste.

W. A. Feinberg Sons, Pipestone County, Havre, 144 bls. rags.

V. Galaup, Pipestone County, Havre, 368 bls. rags.

S. Silberman & Co., Pipestone County, Havre, 124 bls. rags.

2nd National Bank of Boston, Pipestone County, Havre, 86 bls. rags.

E. J. Keller Co., Inc., Pipestone County, Havre, 319 bls. rags.

Salomon Bros. & Co., Pipestone County, Havre, 40 bls. strings.

Bulkley, Dunton & Co., Pipestone County, ——, 151 bls. rags.

American Exchange Pacific National Bank, Delilian, Antwerp, 103 bls. flax waste.

Andrews & Cook, Delilian, Antwerp, 100 bls. flax waste.

2nd National Bank of Boston, Delilian, Antwerp, 463 bls. rags.

Philadelphia Girard National Bank, Delilian, Antwerp, 190 bls. rags.

Baring Bros. & Co., Delilian, Antwerp, 100 bls. rags.

J. T. Lodge Co., Delilian, Antwerp, 60 bls. rags.

E. J. Keller Co., Inc., Seattle Spirit, Hamburg, 155 bls. rags.

E. J. Keller Co., Inc., Panaman, Kobe, 200 bls. bagging.

Castle & Overton, Inc., Kofuku Maru, Denmark, 242 bls. rags.

Castle & Overton, Inc., Ala, Holland, 619 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING DECEMBER 4, 1926

Castle & Overton, Inc., Rial, Germany, 68 bls. rags.

Castle & Overton, Inc., Tripp, Germany, 123 bls. rags.

Castle & Overton, Inc., Michigan, France, 397 bls. rags.

Castle & Overton, Inc., West Ira, Germany, 194 bls. rags.

Castle & Overton, Inc., Winston-Salem, France, 485 bls. rags.

Castle & Overton, Inc., West Totant, England, 70 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 4, 1926

Congoleum-Nairn Co., McKeesport, Dunkirk, 510 bls. rags.

Congoleum-Nairn Co., McKeesport, Havre, 243 bls. rags.

Chase National Bank, McKeesport, Havre, 175 bls. rags.

Johanson, Wales & Sparre, Hjelmaren, Gothenburg, 1,794 bls. dry soda pulp.

Johanson, Wales & Sparre, Hjelmaren, Gothenburg, 704 bls. sulphite.

Johanson, Wales & Sparre, Hjelmaren, Gothenburg, 750 bls. sulphate.

E. M. Sergeant & Co., Hjelmaren, Gothenburg, 897 bls., dry soda pulp.

E. M. Sergeant & Co., Hjelmaren, Gothenburg, 255 bls. sulphite.

J. Anderson & Co., Hjelmaren, Gothenburg, 125 bls. sulphite.

Scandinavian Pulp Agency, Inc., Hjelmaren, Gothenburg, 3,048 bls. kraft pulp.

Buck, Kiaer & Co., Inc., Tigre, Sikea, 2,250 bls. sulphite.

E. J. Keller Co., Inc., Boschdyk, Karlsruhe, 300 bls. wood pulp.

E. J. Keller Co., Inc., West Celina, Hamburg, 100 bls. rag pulp.

Castle & Overton, Inc., Ala, Holland, 540 bls. wood pulp.

Castle & Overton, Inc., Hannover, Germany, 23 bls. rags.

NORFOLK IMPORTS

WEEK ENDING DECEMBER 4, 1926

E. J. Keller Co., Inc., Westerner, Antwerp, 145 bls. rags.

High Falls Paper Co. Employees Insured

The High Falls Paper Company of Chateaugay, N. Y., has adopted a cooperative program providing all its employees with group insurance. The plan includes approximately $95,000 life insurance, about the same amount of accidental death and dismemberment coverage, and liberal benefits under a health and non-occupational accident policy.

The cooperative arrangement is one of the chief features of the group plan, which is being underwritten by the Metropolitan Life Insurance Company. It provides for the payment of premiums jointly by the employer and employes, whose share of the cost is in this way substantially reduced.

The amount of an individual's insurance is determined by the amount of his annual salary. On this basis, the minimum life insurance is $1,000 and the maximum $3,000 while the same figures apply in the case of accidental death and dismemberment protection. Under the health and accident policy, an employee will receive ten, fifteen, or twenty dollars a week when any sort of illness or an accident suffered off the job keeps him away from his work. These payments will be made for a maximum of twenty-six consecutive weeks.

While the life insurance primarily establishes death benefits for the family or other dependents of an employee, it also provides the employee himself with a temporary fixed income if he becomes totally and permanently disabled before age 60. In such event, he will receive the full amount of his life insurance in monthly installments. During the disability period premiums will be waived by the insurance company.

Should an employee die as the result of an accident, his beneficiaries will be paid, under the terms of the accidental death and dismemberment policy, an additional sum equal to the amount of life insurance received. If he losses one or more members such as an eye or a limb, the employee himself will receive a substantial sum proportionate to the extent of his loss.

Certain service advantages also are included in the general group program. Among these is the periodical distribution of health educational pamphlets.

Removing the "chance in a thousand"

Fig. 715—Jenkins Bronze Fire Line Angle Valve.

Jenkins Fire Line Valves remove the "chance in a thousand" of serious damage by fire. They are used in large numbers even in buildings of fire-proof construction. They hold pressure without leakage and when opened instantly allow an unrestricted flow; fitted with Jenkins Renewable Discs, they neither corrode nor stick at the seat. The iron hand wheel is enamelled red for greater visibility.

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For St. Croix Paper Co.....1200 H.P.
For Brown Paper Mill Co.....3430 H.P.
Central Paper Co., Muskegon, Mich., four orders, total .....3100 H.P.
Philadelphia Paper Mfg. Co., Phila., three orders, total .....2400 H.P.
Jessup & Moore Paper Co., Phila., four orders, total .....4750 H.P.
Ontario Paper Co., Ltd.
For Daily Newspaper Co., North Tonawanda, N. Y.....2034 H.P.
Filer Fibre Company, Filer City, Mich.....1500 H.P.
John Lang Paper Co., Philadelphia, Pa..... 416 H.P.
Bayless Manufacturing Corp., Austin, Pa....1300 H.P.
Northern Board & Paper Co., San Francisco, Cal., two orders, total..... 400 H.P.
Crown Williamette Paper Co., San Francisco, Cal., two orders, total..... 750 H.P.
Delaware Hard Fibre Co., Wilmington, Del., two orders, total..... 920 H.P.
Kieckhefer Container Co., Delair, N. J.....1800 H.P.

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, December 8, 1926.

While trading in the local paper market has slackened down somewhat, due to the fact that most large consumers have filled their requirements for the season, the market remains fairly active, and indications are that some liveliness will develop following the close of the inventory period. Prices are reported to be holding up to former levels, and there has not been much talk of concessions. A good volume of inquiries are being received for future business, and the trade is generally optimistic over the outlook for the future.

News print continues in heavy demand and the increased production being maintained this year is being readily absorbed by the publishers. Spot supplies of news print are said to be decidedly scarce and prices are steady to firm. Contract orders for next year are being booked at a good rate and withdrawals are proceeding at a satisfactory pace.

Box board production is proceeding on a normal scale, and is keeping just ahead of consumption. Quotations are being well maintained. Fine papers are in steady request at the prevailing prices, which are holding up very well. The coarse paper market is exhibiting strength, and wrapping paper is in particularly strong demand.

Mechanical Pulp

The ground wood market is practically unchanged. Most of the business transacted during the past week was along routine lines. Inquiries for future business are being received by the manufacturers in good volume and future prospects are promising. Prices are being maintained in most instances and shading is infrequent.

Chemical Pulp

Demand for chemical pulp is along seasonal lines. Quotations on both the domestic and imported product are unchanged. The tendency of this market is to become firmer, now that the closing of navigation on the Baltic is near at hand. Other factors affecting the situation are the coal shortage, and labor difficulties abroad.

Old Rope and Bagging

Foreign and domestic old rope is only in fair demand at present. Prices are rather weak. Supplies of bagging are considered amply sufficient to take care of the current demand. An improvement in the request for old rope and bagging from the paper mills is confidently anticipated in the near future, once inventories are completed.

Rags

Interest in imported rags appears to be growing, and while trading is quiet for the time being, the market should enjoy an active period before long. It is reported that foreign linen rags are particularly strong. The domestic rag situation is practically unchanged and no radical price changes have been recorded.

Waste Paper

The waste paper market is exhibiting a strong undertone. Old news is in good request at firm prices. Demand for soft shavings is quite persistent. There is also a satisfactory request for book papers. In some quarters it is said that mixed paper is in better supply than for some time, quotations being slightly weaker.

Twine

Now that the demand for wrapping paper is expanding, the twine market is in a much better position. Trading during the past week was quite active, and while prices are still considered to be too low by many competent authorities on the industry, a firmer trend is anticipated in the near future.

W. A. Anderson to be Production Manager

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., December 6, 1926.—A. G. Gilman, president of the Allied Paper Mills, announces the engagement of William A. Anderson as production manager and in charge of manufacture at the company's various divisions. While his headquarters are in the company's general offices, his tasks will require considerable time in Otsego as well as Kalamazoo.

Mr. Anderson is not unknown to the fraternity of Kalamazoo paper makers. Years ago he ran a machine at the Bryant Paper Company and rose to the position of boss machine tender. He resigned to accept a better position with the Monadnock Paper Company, Bennington, Vt., later returning at the solicitation of Frank H. Milham to assume charge of the construction and running of the Milham Division. He held this position three years.

Leaving the Bryant Paper Company, Mr. Anderson returned to Canada, where he first learned the art of paper making. He assumed the position of mill manager and general superintendent of the Kinleith Paper Mills, remaining with that concern for ten and a half years, when the plant was absorbed by the Howard Smith Paper Company. Mr. Anderson then became superintendent of the company's Crabtree Mills.

Mr. Anderson comes back to Kalamazoo backed by a highly successful record and Allied Paper Mill officials feel very fortunate in having secured the services of such an able addition to the local organization.

Taggart Bros. Co. Open Herrings Plant

WATERTOWN, N. Y., Dec. 6, 1926.—Taggart Brothers Company, paper and paper bag manufacturers of this city, are opening a new plant at Herrings. The plan has been in course of preparation since mid-summer and is now undergoing preliminary work of an experimental nature before production is started. It is expected everything will be in readiness for full time operation in a few days and workmen will be assigned to duty.

A high speed cylinder machine has been installed for the making of light weight paper for cement bags. Some time ago Taggart Brothers company changed its process of bag manufacturing that involved using a lighter weight paper and the Herrings mill was converted to its uses. The property was purchased some years ago from the St. Regis Paper Company.

The plant when running at capacity will employ about 80 men and over 100 women. The main plant of Taggart Brothers Company is located in this city and is one of the largest paper bag manufacturing plants in the country, making a specialty of cement bags. It is planning an expansion of its business, and is at the present time considering the establishment of a plant in Oswego.

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2927-7

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, December 8, 1926.

During the past week, paper maker's chemicals were in good demand, while a satisfactory number of contract orders were booked on account of the coming year's requirements. Contract withdrawals have been moving at an excellent pace and accumulations are being readily absorbed in the spot market. The recently announced contract prices are being well maintained and there has been little evidence of shading.

BLANC FIXE.—Steady conditions prevail in the blanc fixe market and the movement against consumption has been very encouraging. Quotations on both the pulp and the powder are holding up very well. The pulp is selling at $60 per ton, in bulk, and the powder is offered at from 4 to 4¼ cents a pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder has been persistent, and the volume of contract shipments moving into consumption has been sustained. Prices are unaltered. Bleaching powder is still selling at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity and size of container.

CASEIN.—The casein market was rather quiet during the past week, and consumers of this product appear well covered on their immediate needs. No radical change in the situation is anticipated for the present. Domestic casein is quoted at from 15 to 16½ cents a pound, while imported casein is selling at from 15½ to 16 cents a pound.

CAUSTIC SODA.—Contracts for caustic soda are being made in good volume at the previously quoted rate. Shipments are being made at a satisfactory pace and consumption is reported to be expanding. Caustic soda is quoted at from $3 to $3.10 per 100 pounds, in large drums, at works. Spot car lots are selling at $3.20 per 100 pounds.

CHINA CLAY.—There was a satisfactory movement of china clay during the past week. The demand for this product was well up to expectations. Prices were generally well maintained. Imported china clay is still quoted at from $13 to $22 a ton, in bulk, ship side. Domestic washed clay is selling at from $8 to $9 a ton, at mine, and pulverized at $10 a ton.

CHLORINE.—Contract withdrawals of chlorine were heavy during the past week. A good volume of new business was booked at the prevailing prices. Chlorine is still quoted at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract orders, while the spot price ranges from 4¼ to 4¾ cents a pound.

ROSIN.—The rosin market continues to fluctuate. A fair demand for this product was experienced during the past week. Most of the orders booked were for immediate requirements. At the naval stores, the grades of rosin used in the paper mills are now offered at from $12.60 to $12.70 per 280 pounds, ex dock, in barrels. Wood rosin is quoted at $10.50 per 280 pounds, in car loads, at Southern shipping points.

SALT CAKE.—The position of the salt cake market is very strong. Shipments against contract are moving into consumption at a good pace. Supplies of this product are reported to be limited, and the spot market is decidedly firm. Quotations on salt cake rule from $18 to $20 a ton, in bulk, at works.

SODA ASH.—Consumption of soda ash is still expanding. Production is proceeding at capacity to take care of requirements. A substantial tonnage of contract business has already been fixed for next year. Contract quotations, in car lots, at works, per 100 pounds, are as follows: in bags, $1.32½, and in barrels, $1.57½.

STARCH.—Trading in the starch market was active during the week, and prices were well maintained at the formerly quoted basis. Production is proceeding in sufficient volume to take care of current needs. Special paper makers' starch is still quoted at $3.42 per 100 pounds, in bags, and at $3.59 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The tone of the sulphate of alumina market is steady and prices are practically unchanged. Supplies continue to move into consumption readily. Commercial grades of sulphate of alumina are selling at from $1.40 to $1.45, in bags, at works, in car lots. The iron free is offered at from $2 to $2.05 per 100 pounds, at works.

SULPHUR.—Steadiness continues to prevail in the sulphur market. Contract withdrawals are moving in a satisfactory manner and prices are holding up to schedule. Some liveliness is also developing in the spot market. Sulphur is still selling at from $18 to $19 a ton, in bulk, at mine.

TALC.—Changes in the talc market have been infrequent of late, and prices have been maintained at the same level for some time. While most of the business transacted during the past week was routine, the position of the market is sound and the future outlook is promising. The quotations on domestic talc ranges from $16 to $18 a ton, at eastern mines, while French talc is offered at from $18 to $22 a ton, ship side.

De Grasse Paper Co. Employees Insured

The De Grasse Paper Company of Pyrites, N. Y., has adopted a cooperative program providing its employes with group insurance. The plan includes approximately $600,000 life insurance, about the same amount of accidental death and dismemberment coverage, and liberal benefits under a health and non occupational accident policy.

The cooperative arrangement is one of the chief features of the group plan, which is being underwritten by the Metropolitan Life Insurance Company. It provided for the payment of premiums jointly by the employer and employes, whose share of the cost is in this way substantially reduced.

The amount of an individual's insurance is determined by the size of his weekly salary. On this basis, the minimum life insurance is $1,000 and the maximum $3,000 while the same figures apply in the case of accidental death and dismemberment protection. Under the health and accident policy, an employee will receive ten, fifteen or twenty dollars a week when any sort of illness or an accident suffered off the job keeps him away from his work. These payments will be made for a maximum of twenty-six consecutive weeks.

While the life insurance primarily establishes death benefits for the family or other dependents of an employee, it also provides the employee himself with a temporary fixed income if he becomes totally and permanently disabled before age 60. In such event, he will receive the full amount of his life insurance in monthly installments. During the disability period premiums will be waived by the insurance company.

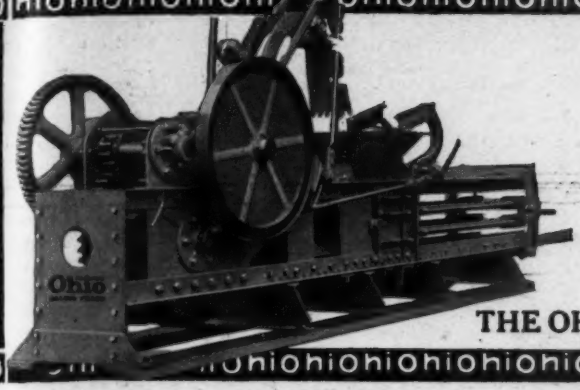
Should an employee die as the result of an accident, his beneficiaries will be paid, under the terms of the accidental death and dismemberment policy, an additional sum equal to the amount of life insurance received. If he loses one or more members, such as an eye or a limb, the employee himself will receive a substantial sum proportionate to the extent of his loss.

Swedish Pulp Industry Affected by British Strike

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 7, 1926.—The Swedish pulp and paper industry is beginning to feel the effects of the continued British coal strike, which is reflected in the uncertain paper demand and in advancing production costs, with the resultant rise in prices, says a report to the Paper Division of the Department of Commerce from Assistant Trade Commissioner Kekick, at Stockholm.

There has been a smaller turnover in chemical pulp recently, but the outlook is considered satisfactory in that approximately 55 per cent of the 1927 production has already been placed. During October, says the report, 119,266 tons of pulp and 33,604 tons of paper were exported in comparison with 110,311 tons of pulp and 37,648 tons of paper during the corresponding month of last year.



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BALING PRESS

The nature of this baler is such that it makes a neater and more compact bale.

Every bunch of scrap is packed in by a powerful blow of the plunger.

Made in Three Sizes

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WARREN IMPROVED CALENDAR DOCTORS

With Flexible Blades, Universal Adjustment and Control

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WARREN IMPROVED DOUBLE PATENT DRUM WINDERS

Patent BALL VALVE Hydrant

Stock Circulating Systems and other Paper Mill Specialties

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Bleached Soda Pulp

Manufactured and sold by

COLUMBIAN PAPER COMPANY

BUENA VISTA VIRGINIA

Samples and Prices upon application

Fourdrinier Wires, all widths up to 300 inches.

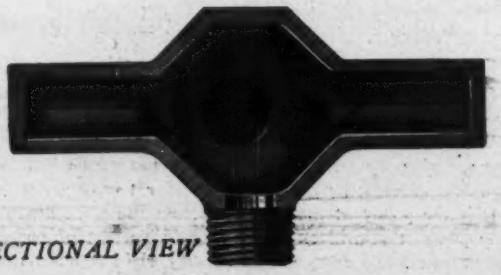
DIMOND WIRES

NEUMEYER & DIMOND

Established 1904

82-92 Beaver St. New York

INCREASE YOUR WATER CAPACITY



SECTIONAL VIEW

A SAND VALVE FOR FILTRATION PLANTS

WHICH IS INTERCHANGEABLE—ELIMINATES REPAIRS —DOES NOT COLLECT REFUSE—WILL NOT BREAK WHILE BEING COVERED WITH SAND—A HIGH GRADE BRASS CASTING, SKILLFULLY MADE.

MANUFACTURED BY

CENTRAL MANUFACTURING CO.

KALAMAZOO, MICH. *"THE QUICK SERVICE HOUSE"*

Oneida Paper Products, Inc., Begins Operations

Oneida Paper Products, Inc., have begun operations in the Bush Terminal, Brooklyn, N. Y., where they are occupying to begin with, somewhat over 12,000 square feet, on one floor. Their production will be one million bags per day of nine hours.

In glassine bags they offer all sizes flat and old style square and one ounce to one pound satchel bottom—alligator and pique embossing—one and two color printing of unusual character. In coffee bags they offer self-opening—supercalendered bleached white and six colors—alligator and pique embossing—glassine and kraft lining—decorating and printing in one or two colors on face, back and folds. In addition to these bags they will manufacture bags of wax paper, parchment paper, manila paper, kraft paper, machine glazed paper and bleached paper for various, special purposes.

In all departments and for both major and auxiliary operations, their equipment represents the latest word in machine design and construction, affording the utmost in speed and accuracy of performance.

The management, seasoned by years of sound experience in the industry, comprises:

John Stein, recently superintendent of the Specialties Division of the Continental Paper and Bag Mills Corporation; Harold M. Fox, recently district sales manager of the Chicago and Indianapolis Districts of the Continental Paper and Bag Mills Corporation; Irving Zucker, recently manager of the North American Paper Company, Chicago, and formerly specialties salesman of the Continental Paper and Bag Mills Corporation; Gerald Fox, recently assistant manager of sales of the Continental Paper and Bag Mills Corporation.

Brotherhood Meets in Niagara Falls

ALBANY, N. Y., December 6, 1926.—William R. Smith, president of the International Brotherhood of Papermakers with headquarters in this city, represented the executive board of the organization at a banquet Sunday in Niagara Falls given under the auspices of Power City Local of that place. The affair was in the nature of a get-together for the unions in Niagara Falls, North Tonowanda and vicinity in New York State and Merriton, Thorold and other paper making cities in the Province of Ontario, Canada.

The gathering was one of the largest ever held in Niagara Falls. The entire executive board had been invited to attend, but because of the expense attached the other eight members of the board delegated President Smith to represent them. The Brotherhood president was at one time a member of Niagara Falls local coming from that city to Albany in 1911 after his selection as secretary of the Brotherhood by the executive board. Jeremiah T. Carey was at that time president and secretary and Mr. Smith was chosen to assist him.

FIFTH POWER SHOW

(*Continued from page 21*)

Tycos temperature instrument that will give dependable knowledge of the temperature factor in every business.

After many years of study of industrial temperature and pressure problems, the Taylor organization is able to give a service that assures their clients of an instrument which meets their specific needs exactly.

Terry Steam Turbine Co.

The elaborate display of the Terry Steam Turbine Company, of Terry Square, Hartford, Conn., contains the following equipment: Single stage steam turbines. These are of the standard Terry reentry type and are exhibited in several sizes. Multi-Stage turbines: Showing for the first time a representative machine of the Terry multi-stage type. Herringbone gears: A representative Terry reduction gear is on display with its cover raised to show the rugged construction and the system of oiling. Terry couplings: Several of the standard sizes of this product are shown not only mounted on the products listed above, but also separately.

The Terry Paper Machine Drive has earned an enviable reputation for efficiency, reliability and smoothnes of operation. Many mills are using it to replace both reciprocating engines and motors.

Timken Roller Bearing Co.

The Timken Roller Bearing Company, of Deuber avenue, Canton, Ohio, are showing samples of Timken Tapered Roller Bearings as applicable to all types of industrial machinery, including power transmissions.

In addition they have a moving exhibit demonstrating the manner in which the rolls of a Timken Bearing keep in positive alignment at all times, thus preserving constantly the full line contact of the bearing. This display consists of rollers revolving around the inner raceway with no cage or cup to hold them in position.

The company operates factories at Canton, Toledo, and Columbus, Ohio; Walkersville, Ontario, Canada. European requirements are taken care of by factories at Birmingham, England; and Paris, France.

Walsh & Weidner Boiler Co.

Forged Steel Sectional Header Water Tube Boilers are displayed by the Walsh and Weidner Boiler Company, of Chattanooga, Tenn. To meet the demand for a boiler combining the efficiency of the Walsh and Weidner Inclined Forged Steel Sectional Header with economy of floor space and setting material, the Walsh and Weidner Boiler Company has developed a vertical header.

Walsh and Weidner Forged Steel Sectional Header Boilers now being used in all types of industries, for medium and high pressures, are giving excellent results, are built in sizes up to 30,000 square feet of heating surface each, and are easily adaptable to all modern appliances for burning fuels and for any auxiliary equipment.

They also manufacture Forged Steel Sectional Header Boilers built of the longitudinal horizontal drum type, as well as the cross drum type.

Walworth Mfg. Co.

Valve fittings and tools for steam, water and gas, are displayed by the Walworth Manufacturing Company, of 88 Pearl street, Boston, Mass. The Walworth Company makes standard globe and angle valves for general use on steam, water, gas, air and oil lines.

These valves are of good weight and are properly designed to make up tight on the pipe without injury to the valve and to sustain the ordinary strains incident to expansion, contraction and settling of pipe lines. These can be furnished with Jenkins type discs if desired.

Swing check, vertical check and horizontal check valves are furnished for the same service as the globe and angle valves. Globe and angle valves are recommended for service where the valve is used to throttle the flow of fluids to part capacity of the pipe. The angle valve generally eliminates the use of an elbow and is used in place of the globe when conditions permit.

Warren Steam Pump Co.

Centrifugal and Reciprocating Warren Pumps are demonstrated by the Warren Steam Pump Company, of Warren, Mass.

Warren Pumps are built in a modern, well-equipped, well-manned shop by an organization that has specialized in the design and construction of fine pumps for twenty-seven years.

It is the policy of the Warren Steam Pump Company to build only pumps that will effect lowest possible cost of operation and maintenance. To carry out this policy, rigid standards of quality have been developed.